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CONTENTS, MAY, 1902

COVER DESIGN by F. H. Gorham

COVER MINIATURE by Arnold Genthe

DECORATIVE PANEL—James H. McCorkle	Frontispiece
THE COLORADO DESERT AND THE COLORADO RIVER DELTA Illustrated by the writer	F. I. Monsen 1
PLATES AND LIGHT FILTERS FOR ORTHOCHROMATIC AND TRI-COLOR PHOTOGRAPHY	
THE ECLIPSE OF MAY 18, 1901 (Illustrated by the writer)	Dr. Adolph Miethe 9
TO DETERMINE FOCAL LENGTH	S. A. Mitchell 12
EXPERIENCE, OR SUPERSTITION	Chapman Jones 19
TWO PICTURES FROM NEW ZEALAND	H. Hands 22
THE TOTEM POLES OF ALASKA (Illustrated)	A. E. Winzenberg 25
EDITORIAL	Mrs. T. Frohman 27
THE AMATEUR AND HIS TROUBLES	Fayette J. Clute 30
A PHOTOGRAPHIC DIGEST	H. D'Arcy Power, M. D. 32



A DECORATIVE PANEL
by JAMES H. MCCORKLE

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. V.

SAN FRANCISCO, CALIFORNIA, MAY, 1902

NO. 1



THE COLORADO

THE COLORADO DESERT AND THE COLORADO RIVER DELTA

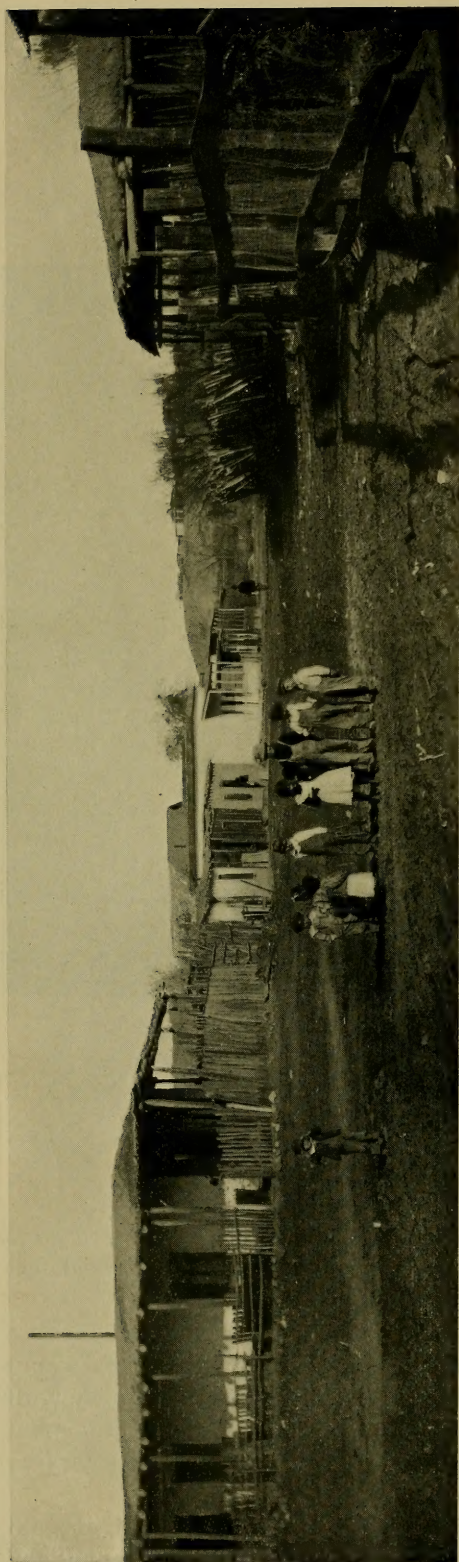
BY FREDERICK I. MONSEN

ILLUSTRATED BY THE WRITER

The Colorado Desert, in Southern California, might be likened to a great shallow basin, the deepest central portion depressed nearly three hundred feet below sea-level.

This depression, beginning near Indio, in Riverside County, extends in a southeasterly direction toward the delta of the Colorado River. Its existence geologically is easily explained. There was a time, ages ago, when the Gulf of California extended much further inland than at present, filling this great basin and reaching as far northwestward as the base of the San Bernardino Mountains.

The Colorado River, carrying its heavy freight of silt and sand, entered the gulf from the east, pushing its sedimental deposits further and further out and



A MEXICAN STREET IN YUMA

across the gulf until there was formed a delta, or bar, from shore to shore.

In this way communication was cut off, and what was once the upper end or head of the gulf now became a great inland sea. When the water ceased flowing the sea gradually evaporated until there was left the dry bed bottom, the Colorado Desert of today.

The lowest depression in this basin is known as the Salton Sink. It is a great marsh covered for miles with a thick crust of almost pure salt (chloride of sodium), commercially very profitable. The method of working is to plow up the surface with steam plows, cutting an eight-foot furrow eight inches deep. Eight hundred tons are loosened in this manner which, when ground and bagged, is ready for shipment.

In 1891 a singular lake appeared in this sink, the origin of which, for some time, was a mystery. It was called the "Salton Sea," and at the time was much exploited by the press. The creation of this lake is explained as follows: In February of that year a phenomenal rise of the Colorado River caused a break in its banks below the town of Yuma, and the resulting overflow flooded the country for miles, filling all the depressions and forming great lakes in the desert.

When the June rise came this break in the bank widened and the flood waters again poured into the depressions, or as they were by this time, lakes, filling them to overflowing and causing a channel to be formed, through which the waters ran into the Salton basin, creating the Salton Sea. This incoming water made a lake ten miles wide by thirty long, and ten feet deep in the deepest part, but, like the original sea which covered all the desert, it disappeared rapidly by evaporation when the source of supply was cut off.



ONCE THE FLOOR OF AN INLAND SEA

The reclamation of this great area was brought before Congress as early as forty years ago, but without result, and today private enterprise is doing successfully the work that the government should have done. This reclamation is principally along the international boundary line in the extreme southern portion of San Diego County where, by a system of canals and laterals, many thousand acres will be put under cultivation in this portion of the desert. But



INDIAN WELLS—ABANDONED STAGE STATION ON THE OLD YUMA AND SAN DIEGO ROUTE



UNDER TWO FLAGS. THE INTERNATIONAL BOUNDARY LINE PASSES THROUGH THE CENTER OF THE BUILDING



A MEXICAN HOME ON THE DESERT



HARVESTING SALT ON THE DESERT. PLOWS ARE USED TO LOOSEN THE THICK CRUST AND MEN SHOVEL IT ON FLAT CARS



THE MUD VOLCANOES OF LOWER CALIFORNIA



DIOGUENA INDIAN HOME

the fact remains that the greater part of the desert can never be reclaimed, even if water could be placed on it, as the soil contains too high a salt content for successful cultivation.

The Colorado Desert has a history of suffering, privation and death second only to that of Death Valley. Within its deadly confines there are but few

springs, and most of these saline. From the time of the pioneer scarcely a year has passed without some poor wayfarer losing his way and perishing of thirst and heat upon this desert plain. It is now crossed by the Southern Pacific Railroad, but even at this day men are found dead along the line of track overpowered by the heat. This is not strange when it is known that the desert holds the record for heat. One hundred and twenty degrees in the shade (if you can find the shade) is quite an ordinary temperature in midsummer, and official reports show a maximum heat of one hundred and twenty-eight degrees shade temperature.



YUMA INDIAN GIRLS

Topographically the deserts of the southwest are singularly diversified, but the Colorado shows a striking difference. Surrounded on all sides, but one, with mountains, it spreads out in gentle slopes toward its center, spotted here and there by growths of mesquite, palo verde and scrub greasewood. There are but few animals in this dreary land; the struggle for existence is too severe. This struggle for life is due not only to the lack of water and vegetation to sustain life but to the fact that they prey upon each other with a ferocity unknown to animal life in more favored localities. In the desert mountains the panther and wildcat are found, while the gray wolf and coyote roam over the entire area in search of prey. Among the smaller animals are foxes, raccoons and rabbits. In reptiles there is variety enough. The rattlesnake, side-winder and Gila monster and the varied assortment of horned toads, lizards, and poisonous insects, such as tarantulas, scorpions and centipedes abound. Birds on the desert have even a greater struggle for existence than the animals, and excepting birds of prey, such as vultures, hawks and crows, very few of the smaller species are to be seen.

These are the characteristics of the *heart* of the desert, but how different on the Colorado River delta in Lower California. Here vast stretches of fertile river

bottom land is covered with a rank growth of arrowweed and forests of cottonwoods and mesquites, with here and there the rancherias of the Dioguenas and Cocopah Indians. Game of all kinds abound here. Geese, ducks and pelicans in immense numbers inhabit the numerous lakes and bayous and doves and quail in countless thousands make their home in the almost impenetrable jungle of arrowweed. Deer and peccary (wild hogs) are numerous near the river bottom, and beavers inhabit many of the streams. It is a veritable hunter's paradise as yet comparatively unexplored and unknown. But its game is not its only attraction, for on the Hardy's Colorado, there are fields of geysers, mud-vomiting volcanoes covering hundreds of acres, which are often in motion,



A NATIVE

the whole area undulating in great waves. Excepting a few naked Cocopah and Dioguenas Indians this country is uninhabited.

During the winter months no more delightful journey in the wilderness could be taken than a trip into this section of Lower California. Although this region is physically a part of the Colorado Desert it is an extreme antithesis to it, owing to the occasional flooding of the country by the high waters of the Colorado River.



A DESERTED HOME

BY L. J. LATHWESEN

PLATES AND LIGHT FILTERS FOR ORTHOCHROMATIC AND TRI-COLOR PHOTOGRAPHY

BY DR. ADOLF MIETHE, HON. F. R. P. S., PROFESSOR OF PHOTO-CHEMISTRY IN THE CHARLOTTENBURG TECHNISCHE HOCHSCHULE

PREPARED ESPECIALLY FOR CAMERA CRAFT AND PHOTOGRAM OF ENGLAND

Continued from the March Camera Craft

The two chief methods of obtaining photographs in natural colors are, as is well known, the so-called direct and indirect processes. The former has hitherto given no practically useful results, and though direct processes are of great scientific interest it is not likely that they will ever be of technical value. The most important of the direct processes is that of Lippmann, in which a fine-grained sensitive film is backed in optical contact with a reflecting surface of mercury. The waves of light reflected obliquely from the image give rise to colors similar to those of colored objects, but produced by "interference." As indicated by theory and confirmed by practice, the reproduction of colors by this process is the more perfect the purer the colors. It is a fact as evident in actual work as it is clearly foreseen by theory, that the more spectrum colors contained in any given color the worse its reproduction by the Lippmann method. Hence, although the process gives extremely fine pictures of spectra, or of still life subjects, it is absolutely unsuitable for landscape or portraiture, apart from the extremely long exposure necessary. Added to this, each picture is a unit which cannot be multiplied just as is a daguerreotype.

The bleaching-out process is another direct process capable of being carried out in different ways. It is the oldest color process — the formation of colors on the exposure of printing-out paper under colored light filters being really bleaching-out phenomenon. The time of exposure has recently been appreciably reduced by using fugitive aniline dyes *plus* oxidizing agents, and Neuhauss has made extensive experiments in this field. Yet, at present, no result of practical usefulness has been obtained.

Possibly the bleaching-out process may be used for the printing of the components of a tri-color print, if the time of exposure can be sufficiently reduced.

The indirect process, on the other hand, is of great importance, and its facility of application has quickly raised it to a prominent place in graphic technics. Properly speaking, the term "indirect" is a misnomer, as the reproduction depends on the same principles as in the case of the human eye. The eye possesses three different sets of nerves sensitive to light of the respective colors red, green and blue. These nerves, which are arranged like a mosaic on the retina, permit us, by their separate or simultaneous action, to recognize the primary colors red, green and blue, and also the mixed colors. Thus the sensation of yellow is produced by the simultaneous action of the red and green nerves, that of violet by the action of red and blue together. This principle of colors compounded from the three primary colors is applied in the indirect process, which depends on the fundamental fact that by mixing three pigments of sufficient luminosity and properly adjusted colors, any color can be obtained.

In the indirect process there is the subtractive and the additive method. In the subtractive, the three colors mixed together produce black, and this

process it is which in tri-color printing and other ways has gained great technical importance, and is in a state of great perfection. By means of it, prints in natural colors are obtained on paper or other support, though up to the present only by complicated photo-mechanical processes and presses. Processes in which the separate colors take the form of dyed gelatine reliefs, transparent and superimposed, must certainly be regarded as satisfactorily worked out in the Lumière and Selle and other processes, but they are difficult to carry out, and compared with theoretical perfection leave much to be desired as regards result. The subtractive method makes great demands upon the coloring matters used in the printing inks, and, at present, its requirements can be only imperfectly satisfied.

The additive method, on the other hand, presents no theoretical difficulties. In essence it consists of the optical superimposition of the three component images in conjunction with light filters exactly similar to those through which the respective negatives were made. This method, especially in the hands of Zink and Ives, has already produced extremely good results; if these are not completely satisfactory, the fault, in my judgment, is — (1) the defect of the filters (in the commercial Ives' apparatus at any rate) as regards corresponding with theoretical conditions; and (2) the relative insensitiveness of the available plates. For the past two years experiments on this latter point have been in progress in the Imperial Technische Hochschule with surprisingly successful results. By means of optical superposition in a chromoscope similar to Zink's, and of a new projection apparatus, pictures have been produced excelling in fidelity and quality any which have yet been made. Not only still life and such like subjects, but landscapes and portraits can be made with the greatest ease.

The first requirements for this work are correct "taking" light filters; they must comply with certain theoretical conditions. The light passed by each filter must be about one-third of the whole visible spectrum, and the light passed by all three filters must make white when re-combined, *i. e.*, must give a spectrum without gaps or overlapping portions. The preparation of such filters is too difficult a business for the amateur or professional to attempt for himself, and this, besides, would take too long to explain in detail. My own filters I have found to be perfectly permanent in the light and to comply very closely with what theory demands. They pass light corresponding to the three parts of the spectrum as follows: the red filter passes rays of wave-length from 690-590 μ , the green from 590-490, and the blue 490-390. These zones of the spectrum are divided sharply, and one filter details exactly with the other.

Next in importance to the correctness of the filters as regards the division of the spectrum is a further point, *viz.*, their transparency, which should be as great as possible. It is especially difficult to get great transparency in the case of the red filter. I examined hundreds of dyes and mixtures of dyes before I lighted upon the one which gives a filter, allowing the required part of the spectrum to pass with practically undiminished intensity. On the efficient behavior of the filter in this respect depends that essential point, shortness of exposure.

For taking the three negatives I use a single plate of 9 x 24 cm. (=10 x 4 inches), carried in a holder which is fitted to slide at the back of a small camera. For the taking of the negative good commercial panchromatic plates

can be used, but the commercial plates entail a relatively long exposure for red, even in conjunction with the red filter above mentioned, and it may therefore interest some to know that a panchromatic bathed plate, very sensitive to red, is made from my own formula under the name Perchromo.* With these plates the same length of exposure can be given through each filter, and the necessary allowance made by altering the stop in the lens. The advantage of this plan is that one determines the relative stops once for all, and has thus only to think of one time of exposure when photographing different subjects. Thus I use $f/9$ for the blue filter and $f/6.3$ and $f/5.8$ for the green and red. The correct stops to use are ascertained with sufficient exactitude by photographing a white body, such as a plaster bust. The three negatives should then be developed together for the same time, and after fixing should be of exactly equal density. This relation having been found, the absolute time of exposure for each subject is ascertained from the result of practice or by means of a good exposure meter. I emphatically recommend the former; in the hands of an experienced worker it is more certain in its results.

The triple negative is carefully developed for a soft and fogless image. Positive transparencies are made in the usual way; they should be free from fog, but fairly vigorous. Each positive is cut in three if for use in the chromoscope, or projected intact in the lantern to which I have referred. The exact description of the chromoscope and this projection apparatus I must postpone for a while. Both differ considerably from the usual instrument. In the chromoscope no body colored glasses are used, but properly adjusted filters.

* The "Perchromo" plate is made by Herr Perutz (Trockenplatten fabrik, Munich), who will be pleased to answer any enquiries. The mode of preparation, first worked out by Dr. Miethe, appeared in *The Process Photogram*, 1901, p. 43, since when, we believe, it has been somewhat modified. Some notes on the use of the plate appeared in *The Process Photogram* last month.

The filters, camera and projection apparatus mentioned above are made by the firm of Bermpohl, Pflugstrasse 6, Berlin.

LENSES FOR STEREOSCOPIC CAMERAS

The importance of knowing accurately the several points of a lens is best exemplified in the case of a pair of lenses required for a stereoscopic camera to be used for instantaneous work.

As the two lenses fixed on such a camera must of necessity move to and from the focussing screen together, it follows that if a true and perfect stereoscopic effect is desired, the two lenses used must be absolutely perfect pairs as regards their "back focus," "equivalent focus," and also their design generally, seeing that any difference in the relative positions and spacing of the nodal points, as also the relative position of the diaphragms, will have an influence upon the corresponding relative scales of the two images. For two lenses may have their respective principal foci at equal distances from the back surface of the lens and be of the same focal length, and yet they may magnify quite differently; and for absolute exactness in instantaneous stereoscopic work, it is imperative that the two lenses should be "equivalent" to each other in every respect, or, in other words, their cardinal points should agree; that is to say, the nodal spaces should be equal and of the same sign, as with unequal nodal spaces or differences in the sign thereof, lenses of equal focal length can only produce equal images of objects situated at an infinite distance, and the position of the diaphragm should be relatively equivalent also. — *Photography*.

THE ECLIPSE OF MAY 18, 1901

BY J. A. MITCHELL, COLUMBIA UNIVERSITY

SPECIAL REPRESENTATIVE OF CAMERA CRAFT WITH THE UNITED STATES EXPEDITION TO SUMATRA

The United States government spent in 1901 nearly \$20,000 in equipping and sending out an expedition half way round the world to study the sun during the few moments that it was eclipsed. In this party were thirteen men of science willing to give up six months of their busy lives, to undergo the discomforts and fatigues of a long journey, merely to observe for six minutes phenomena connected with a total solar eclipse.

In view of this expenditure of time, energies and money, we may well ask, What is the aim of these what unsolved prob- with the sun? and we make of their so-

The last question is "What is the good of but without going into tical uses of astronomy, student of this oldest sciences must expect tellectual, in widening activity, and in reveal- gree the order and The more we study as- cannot help but feel nomena which the far- tronomer sees happen signed and ruled by the

Astrophysics, or the has been aptly called, plication to the affairs perhaps, any of the of sciences; but astro- other science, gives dent genius of man, in plaining phenomena lions and millions of

teaches us that this earth of ours is in reality merely a small speck in God's firma- ment, but astrophysics teaches us that the inhabitant of this tiny speck can reach out and tell what stuff the sun is made of, or how many miles per second Sirius is altering its distance from the solar system.

Great indeed was thought the genius of man when human knowledge had so far advanced that the happening of an eclipse could be foretold fifty or even a hun- dred years in advance. Up to 1860, it was thought that all the study of eclipses could benefit our knowledge was in rendering more accurate the tables of the moon, and in delineating, and perhaps explaining, the prominences and corona. In 1859, Kirchhoff gave an explanation of the dark lines in the sun's spectrum

scientific investigations? lems are still connected what practical use can lution?

part of the old question, studying astronomy?" an enumeration of prac- we will say that the and purest of all the his chief gain to be in- the range of human ing to a remarkable de- beauty of the universe. tronomy, the more we that none of the phe- reaching eye of the as- by chance, but are de- all-powerful Father.

new astronomy, as it has less of practical ap- of human interest than, branches of our greatest physics, more than any proof of the transcen- grasping facts and ex- that are happening mil- miles away. Astronomy



A MALAY

that had been seen nearly fifty years earlier by Fraunhofer, opening up a new field of research for the scientist, that of investigating the metals in the sun; and the new astronomy took its birth.

In 1868, Lockyer of England and Janssen in France almost simultaneously discovered a method of using the spectroscope by means of which the prominences, which had earlier been seen only at the time of a total eclipse, were rendered visible in broad daylight.

According to the explanation of Kirchhoff, the dark lines in the sun's spectrum, or the Fraunhofer lines, as they are called in honor of their discoverer, are caused by the absorption of light of certain wave-lengths or color, as the rays of the sun pass through the surrounding atmosphere. If the bright light could be shut off, the sun's atmosphere ought to shine of its own light, and give us a spectrum of bright lines on a dark background in the exact positions where were before the Fraunhofer dark lines on a bright background. In other words, the Fraunhofer lines are dark only in contrast to the brilliant background of light from the orb of the sun. At the time of a total eclipse, the moon cuts off the sun's rays, and then ought to be visible the bright-line spectrum. At the eclipse of 1870, Professor Young of Princeton, for the first time, saw the Fraunhofer lines change into the bright-line spectrum, the transformation being so sudden, that he gave the term "flash spectrum." The flash lasted about three seconds, and as in this time the moon covers up about five hundred miles of the sun's surface, he estimated that the "reversing layer," or region in which the spectrum lines are reversed, or changed from dark to bright, has a depth of about this amount. At the eclipse of 1896, the "flash" was first photographed by Shackleton.

The eclipses of 1898 and of 1900, the latter so widely observed in America, added much of scientific value to our knowledge of the sun, but still much more remains to be done. The United States government recognizing the importance of these scientific inquiries, and in view of the fact that at the 1901 eclipse totality would last for more than six minutes, through Congress appropriated money enough to equip and send out an expedition to view the total eclipse in Sumatra on May 18, 1901.

The researches of the party were along the following lines:

1. By means of telescopes of different focal lengths to photograph the corona.
2. By means of the spectroscope, to photograph the "flash spectrum" finding the gases present in the "reversing layer," and the heights to which they extend above the surface of the sun; to investigate the spectrum of the corona to find out what gases go to form it, and, if possible, the rate at which the corona rotates.
3. By the bolometer, to try and detect the heat of the corona and the dark moon.
4. By means of several photographic telescopes, to attempt to find intra-Mercurial planets, if such bodies really exist.
5. By the polariscope, to investigate whether the corona shines of its own inherent light, or is merely light reflected from the sun.

The government expedition consisted of thirteen members, two representing the Smithsonian Institute, and eleven the Naval Observatory. Of this latter



Prof. Barnard Mr. Mitchell

THE GOVERNMENT EXPEDITION. FROM A PHOTOGRAPH BY CAMERA CRAFT ON THE U. S. TRANSPORT SHERIDAN

number, six were from the government observatory, the remaining five being the invited guests of the party.*

Transportation was furnished by government steamers, the Army to carry us as far as Manila, while from there to the East Indies we were to be cared for by the Navy Department.

We left San Francisco February 16th in the Army Transport Sheridan, and arrived in Honolulu the twenty-fifth. Three delightful days were spent there, giving an excellent chance to see how the far-off "Paradise of the Pacific," which now for three years has been under the rule of "Uncle Sam," is being governed.

On April 4th, the pretty harbor of Emma Haven, the seaport of Padang, the capital of Sumatra, was reached, and our long ocean journey of eleven thousand miles was at an end, ours being the first American ship that had ever entered port there.

In a few days there collected in Padang astronomers from all parts of the globe. There were two other United States parties, besides astronomers representing England, Holland, France, Russia and India, about eighty scientists altogether, such an influx of foreigners never before having been heard of in the quiet, easy-going Dutch colony.

We must confess that before reaching the island of Sumatra our knowledge of it was very limited, not that we did not read everything that could be found, but affairs have gone on so quietly there that nothing much has been written. We had read that fierce wild animals of all descriptions abound in the forests—lions, tigers, elephants, crocodiles, alligators, rhinosceroses, hippopotami, monkeys

*Leave of absence was granted by the trustees to the writer from February 1st, and money to pay the expenses of a substitute was generously subscribed by Messrs. Andrew Carnegie, E. A. Matthiessen, F. Augustus Schermerhorn and J. K. Rees.

and many deadly snakes. In one book we found an account of a "venomous reptile that will sit and wait for you in a path, and spit a deadly green vapor for a distance of fifteen feet." Sumatra is the home of the orang outang; in fact, the name is Malay and means "man of the woods." Indeed, there are tales of cannibals not very far from where the astronomical expeditions intended making their locations, and so as a result of our reading we were led to prepare for many interesting and exciting experiences.

The native is the Malay, a bold and fierce race that every boy has read about in the tales of pirates that formerly infested the south seas, and who made their name a terror to the East Indian merchantmen. Under the Dutch rule, however, they are quiet, docile, easy-going and extremely lazy.

Our first glimpse of the Malay showed us a short, wiry individual clad in most picturesque garments: trousers, wide and loose, of cottonstuff with brilliant colors and large pattern, a skirt or *sarong* of the same sort of material, a coat or *kibaya* usually of white or black, and with the head wrapped up in the manner we are familiar with from East Indian pictures. Our two months' stay in Sumatra and our daily contact with the natives made us very well acquainted with their character and disposition.

Life, indeed, was very interesting, thrown so closely as we were with the Dutch and Malays.

The Hollanders were extremely kind and courteous, doing everything in their power to aid us. Free passes on the government railroad were given to all the astronomers, all freight and baggage were carried free, and in fact, the word "Zoneclips," by which we were known, soon became the talisman that made all things work together for our good.



THE OBSERVATORY AT MANILA

We soon found the rain and cloudy weather were going to be the chief obstacles to come between us and perfect success. Our eclipse locations were to be within fifty miles of the equator, beneath the blazing tropical sun, and flooded by the abundant tropical rain which is so great that at Padang there is an annual rainfall of one hundred and eighty-seven inches, or half an inch per day.

Before reaching the East, it had been decided to divide the American expedition into two parties, but the probability of poor weather caused the division into three. The main party was at Solok on the line of the "Staatsspoorweg op Sumatra," the government railroad running from Padang about one hundred miles into the interior. The engineering principles upon which this road was constructed seem to have been very simple—if there was a small hill the road went over it, if a large one the rails were laid around it. As the country through which the "spoorweg" passes is exceedingly rugged and mountainous, an elevation of four thousand feet being reached, there are many steep grades and sharp curves, making withal a certainly picturesque route. Grades as great as eight in one hundred were frequently met, necessitating in such places the making of the road into a cog road. As an illustration of the speed at which the trains were run we may perhaps cite here an actual occurrence. While crossing a bridge one day, going down a six-per-cent grade, the headgear of the Malay brakeman became disarranged and blew off. Nothing daunted he jumped from his position, ran back after his *topi*, and with the short run of perhaps fifty yards caught the train again, which all the time was going at its usual speed.

Solok was a small village with three Europeans, about twenty half castes, and several hundred natives. An old fort, lately evacuated by the Dutch, proved to be a splendid place for the eclipse station, the barracks affording excellent store-rooms for the instruments until they should be set up.

The largest instrument here was Professor Barnard's camera of sixty-one and one-half feet focal length, which would give an image of the sun about seven inches in diameter. With the same apparatus at the eclipse of 1900, this famous astronomer secured several photographs of the corona, marvelous in definition and refinement of detail. They were undoubtedly the best pictures of the corona ever made, but in Sumatra, with a plate forty inches square, one exposure extending over the great length of time of two and a half minutes, it was hoped to even better the 1900 results.

The most powerful spectroscopes ever employed at an eclipse were used by the American party in Sumatra. The important part of these instruments were the gratings, the manufacture of which is a very clever and difficult mechanical problem. The essential part of the machine for ruling these gratings is operated by a screw, and it is the manufacture of this that constitutes the difficulty of making perfect gratings. This difficulty will, perhaps, be grasped when it is understood that a grating is made by scratching with a diamond point on a polished plane or spherical surface, as many as twenty thousand parallel lines per inch, spaced so equally that there is not an error in placing one of these lines to the one-thousandth part of the distance between two adjoining lines, *i. e.*, each line is correctly placed to the one-two-millionth part of an inch. This is the theoretical accuracy that is claimed for a perfect grating, but we have no means of measuring, even by means of our most powerful microscopes, these infinitesimal quantities. It took the genius and mechanical ability of a physicist like the late Professor

Rowland of the Johns Hopkins University to devise a method of manufacturing the most perfect screw ever turned out, and although Professor Rowland's method of cutting the screw has long since been known to the scientific world, and although numerous scientists and mechanics have tried to rule gratings, the only perfect gratings in the world are those made in Baltimore. Astrophysics, indeed, owes a great debt to Professor Rowland, in making possible instruments which have so greatly increased the accuracy of all spectroscopic work.

One of the gratings used in Solok was concave, and was employed without a slit, another was a plane grating used with slit and quartz lenses to attempt to measure the velocity of rotation of the corona. Another spectroscope was made of a large glass prism, with faces six inches square, and a photographic telescope, the combination being known as a "prismatic camera."

The work that would have, perhaps, given the most startling results to the astronomical world was that undertaken by Professor Abbot. His work was twofold, a search for intra-Mercurial planets and an attempt to measure the heat of the corona. The latter was investigated by means of a bolometer, an instrument which will detect the heat of an ordinary candle placed at a distance of five miles, or will measure differences of temperature to the one-millionth part of a degree Centigrade; the search for the small planets being carried out by means of four photographic telescopes, so arranged as to photograph a region in the sky $20^{\circ} \times 24^{\circ}$ in the neighborhood of the sun at the time of the eclipse, two exposures being made to check all suspected objects. If there are bodies which give an impression on the plate which are not known stars, and which show motion between the two exposures, these bodies belong to the solar system. Certain theoretical considerations lead the astronomical world to suspect that there are such bodies which revolve about the sun inside the orbit of Mercury. In fact, one of these bodies was said to have been seen by a celebrated astronomer thirty years ago, but the discovery has never been verified.

At Fort de Koch, near the northern edge of the path of totality was placed another part of the Naval Observatory party having a photographic telescope and a spectroscope.

The writer was at Sawah Loento with a plane grating spectroscope five inches in diameter and fifteen thousand lines to the inch, and a camera. The village of Sawah Loento was typically East Indian, the houses uniformly of one story with their roofs of thatch or corrugated iron, surrounded by luxuriant tropical foliage, the trees of chief interest to the foreigner being the banana and cocoanut palms. Situated on the most prominent site is the residence of the *controleur*, or Dutch official. Usually the few white men of the community are officers of the Dutch army, or a merchant or two, but in Sawah Loento their numbers were augmented by the addition of the *stationschef*, and the engineers employed in the coal mines making altogether about forty white and half-caste residents.

To the west of the Loento river was the village proper with its *pasar* or market, and native and Chinese stores, while to the east were the prison hospitals where lived about eight hundred sick convicts. Each and every man, woman and child was interesting, and we were continually kept in open-eyed wonder at the innumerable and many varied forms of plant and animal life.

Convicts from the great coal mine on the island were furnished free by the *controleur* to do the work of coolies in setting up the apparatus for the eclipse.

The bricks and cement for the piers on which to rest the instruments came from the sheds at the coal mine. They were transported to the eclipse camp, about a mile and a half distant, in three stages; first, by rail to the residence of the controleur, then by *krete karibau* drawn by the sturdy water buffalo, the Eastern beast of burden, to within a quarter of a mile of their destination, the remaining distance on the backs of coolies. It was interesting to see six of them, with three bamboo poles, carry a barrel of cement; it was also interesting to see two able-bodied men drag up the hill five ordinary sized bricks in a basket slung on a bamboo. Five was the minimum load, but the maximum for two men never exceeded ten. But slow as they were, they were about swift enough for the Malay *tukang*, or bricklayer, who always squatted down to work and used tools of the most primitive sort. Indeed, it took him five days to lay twenty-two hundred bricks. It needed all the Malay at our command, with a few English expletives thrown in, to enthuse a little life into them.

But gradually the apparatus was erected, and adjusted in plenty of time for the all-important day of May 18th.

The day at Sawah Loento dawned clearer than it had done for a good many mornings, and although the eclipse was not to occur till noon, we were up and about by sunrise, seeing again to the final adjustments, and going through drill with the assistants who had come up from the man-of-war to help. The instant when the first limbs of the sun and moon came together, or the "first contact," was observed in a beautiful clear sky. Our hopes were now that this favorable condition would only remain till after the sun was entirely covered up by the moon. But alas! half an hour before totality, the sky was completely overcast, and remained so during the five minutes, forty-one seconds duration of darkness. As has been before stated, at the instant of totality the dark lines of the spectrum change into bright, but so cloudy was it, the "flash" passed unnoticed. However, there was a slight clearing of the sky, Mercury and Venus were visible close together to the east of the sun, and a fairly good view of the corona for a short distance surrounding the sun was obtained. As the moon passed off the face of the sun, the solar atmosphere was exposed giving the second "flash" spectrum. A splendid view of this greeted the eyes, and was an appearance never to be forgotten. It lasted about three seconds, and on the reappearance of sunlight changed to the Fraunhofer spectrum.

A few minutes after the total phase was over, blue sky began to appear in patches, and an hour later not a cloud was to be seen. Alas! that the eclipse did not occur at one o'clock instead of at twelve!

We were a mournful group of men in thinking that after traveling half way around the globe our observations should be so hindered by clouds. On coming to develop the plates much more detail appeared than even our most sanguine hopes led us to expect. The photographs of the corona showed an extension of about a diameter, the second flash was fully exposed and showed between two and three hundred lines. Thus at Sawah Loento, the observations, although interfered with by clouds, gave results that are considered rather satisfactory.

At Solok the clouds were heavier, so that during the latter part of the eclipse, even the position of the sun could not be told much less could any detail of the corona be seen. The scientific results were almost nothing. The third station

of the Naval Observatory party had perfectly clear weather, which was taken advantage of and several excellent photographs of the corona and spectrum were obtained. In fact, Fort de Koch was the only place in Sumatra selected by astronomers where perfect weather conditions prevailed.

The work of the eclipse did not end with the actual taking of the photographs; the most difficult problem is in the quiet of the observatory examining and measuring the plates under the microscope and interpreting what is there seen.

This is now being done, and it is safe to say that much of scientific interest and value will be added to knowledge by the Sumatra eclipse of 1901.

TO DETERMINE FOCAL LENGTH

BY CHAPMAN JONES*

The three chief properties of a lens are focal length, aperture and covering power. It is very desirable that photographers who do anything more than take "snapshots" for their amusement should be able to estimate these properties of their instruments, because the work that they do depends upon them, and the most important differences between lenses are expressed by these quantities. It is sometimes desired to compare the results of one lens with another, and the photographer who compares lenses by merely "trying" them may be grievously imposed upon. Certain of the cheaper, unnamed lenses of foreign make will often be found to have their apertures marked as being much larger than they really are, and assuming the marking to be correct, the lens appears to approach far more expensive instruments in its performance. In a similar manner it used to be not uncommon even for some English opticians to mark one-fifth or one-sixth inch microscope objectives as quarter-inch, so that they should be capable of doing more than other quarter-inch lenses, and so appear to be superior to them. And such a false description could not always be justly described as fraudulent, because it was intended to denote the general character of the lens and not to exactly describe it. An optician would, for example, say of an objective that he called a quarter-inch, that it was "really a one-fifth," not attempting to hide the fact. So with photographic lenses, only in this case we never knew the incorrect description to be acknowledged. The ordinary rapid rectilinears, aplanats, etc., were made for very many years with an aperture of $f/8$, and the cheaper imitations were therefore marked with this aperture, though often they were only $f/10$.

An expert user of any instrument ought to be able to determine its constants. At the same time the user does not generally desire to follow in the steps of the maker in his methods of testing. It may be worth the maker's while to have extensive testing apparatus, because he is concerned only with the making and the testing, and has to do with a very great many instruments. But he who works with the instruments has generally but a few, and a critical

*So many requests have reached CAMERA CRAFT with reference to a method of determining the value of lenses, their focal length and other details that this article is reproduced. It was printed in *Camera Obscura* some years ago, and is probably one of the most practical and useful articles published on the subject.

examination or comparison is but seldom wanted. This difference has often been lost sight of by those who have suggested methods for photographers, and so their suggestions have been of but little use. Others have gone to the other extreme, and given methods of a very "practical" kind but worthless, because not giving reliable results. A photographer wants to use for his testing the apparatus that he has, with at most some trivial additions that are neither bulky nor costly. The testing also should, if possible, include only such operations as the worker is accustomed to, for even the simplest operation is difficult to perform until one has practiced it. We have known men who could not do so simple a thing as the focussing of an image with their own camera that they had been working with for months. Nor could they recognize their own inability until they were taught to do so in more lessons than one. The results of an operation done by one who has no experience of it are never of much value.

The difficulty of determining the focal strength of a photographic objective lies in the uncertainty as to what part of the lens to measure from. The simple focussing of a distant object, such as the sun or a distant terrestrial object, and the measurement of the distance from the image to the lens, fails for this reason, even with single or "landscape" lenses. To measure from the diaphragm slot in doublets and the back surface of the lens with single lenses, gives results that may be sufficient to identify a lens with the description in a maker's catalogue, but it will often fail even in this. It is misleading to recommend such a method, because the error involved in it may be practically anything. If, however, a simple lens, such as a spectacle lens, is procured, of a plano-convex shape, and temporarily attached to a camera with its curved face towards the focussing screen, its focal length can be ascertained by measuring the distance between its curved surface and the screen when focussed on a distant object. This can be done with useful accuracy without a camera, by sliding the lens along a rule until it gives its sharpest image of the distant object on a white card held in contact with the end of the rule. It will probably be an advantage to render the outer part of the lens opaque and use only the central portion of it. Having found the focal length of such a lens, the focal length of any other lens or combination of lenses can be found by comparing the sizes of image given by the various lenses, for focal length is directly proportional to the linear measurement of the image produced. In order to effect this comparison, if the spectacle lens has a focal length of, say, ten inches, two objects should be selected that are so far off as to be practically at an infinite distance and that will give images on the ground glass about four inches apart. The exact distance apart of these two points must be measured when the center of the view is sharply focussed. A pair of dividers may be held against the focussing glass and adjusted until its points simultaneously cover the points of the image selected. Every lens to be tested is similarly treated, and the focal lengths will, according to this example, be in every case ten-fourths of the distance between the two points in the image. The errors of this method are due to the difficulty of making the measurements and not to any fault in the principle involved. The operations are quickly performed, especially when several lenses are tested at the same time.

A method that is susceptible of more exactness, and that does not involve the comparison of one lens with another, is a modification of that commonly known as Schroeder's. The original method is (1) to focus a distant object, then (2) a near object, so that the object and image are the same size, and (3) to notice the distance through which the focussing screen has been moved between the two operations, this distance being the focal length sought. Without special apparatus this method is practically impossible, even if the camera at hand will extend a sufficient length. If the camera focusses by moving the front, further difficulties are introduced. The modification consists in neglecting in the second focussing to get the image of any preconceived size, and then to correct the measured distance (see (3) above) according to the proportion between the linear measurement of the image and the object. We will give such practical details of this method as will enable anyone to use it who has a camera, getting results that will depend for accuracy only upon the exactness with which the adjustments are made. First, focus sharply a distant object, so distant that it is equivalent to an infinite distance. If it is a thousand focal lengths away, the error in position of the focussing screen will be the one-thousandth of one focal length. Such a fraction will probably be negligible in a ten-inch lens or one of smaller focal length. Mark the position of the movable part of the camera, either back or front, by a fine mark on the baseboard. Next, make two crosses with the fine point of a hard lead pencil on the focussing screen exactly ten centimetres apart (this is convenient for a half-plate camera) using preferably an engine divided paper scale such as are now in common use. Rack out the camera to approximately twice the focal length of the lens, or, if it will not allow of this, as far as convenient. Then sharply focus the scale so that the image of its gradations lie over the two marks already made, and read off on the focussing screen how many divisions of the scale are included between the two marks; call this m . Mark the baseboard as before, and measure the distance between the two marks; call this f . If m is equal to ten centimetres, f is the focal length, as in Schroeder's method. In any case, f multiplied by m and divided by ten will give the focal length. The ten centimetres is a convenient distance to take for half-plate cameras, but obviously it may be any other known distance.

We have described the above method in detail because we believe that it is, of all correct methods, the most practically useful to those photographers that do not want to use other apparatus than what they possess. The accuracy of the estimation depends solely on the worker himself, and is simply a matter of good critical focussing and the measurement with a scale from one mark to another. The results of two estimations, at different times, with the same lens, will probably not vary more than the fiftieth of an inch, or even less if the focussing is critically done and the measurements are made with ordinary care.

LOS ANGELES SALON NUMBER

The June CAMERA CRAFT will be another special Salon number, containing fifty illustrations in color and black and white, together with a fair and impartial criticism of the work of each exhibitor. This number will sell for twenty-five cents, but there will be no extra charge to subscribers.

EXPERIENCE, OR SUPERSTITION?

BY H. HANDS, IN PENROSE'S ANNUAL

Sooner or later, the beginner, who picks up his knowledge from books or from instructors, is bound, in the light of his own experience, to wonder at the divergencies which exhibit themselves between the theory of his teaching and the facts of his practice. Of course, I refer to the man who, after getting through with his "beginnings," wants to know the "whys" and "wherefores" of what he has been taught, and forages himself for that knowledge which always comes to the assiduous worker. There is, of course, a large class that accepts all they are taught as beyond question, and who never dream of putting it to test. It is among this class that what I here called superstitions flourish and are perpetuated. It often happens that, in the presence of what a worker thinks unmistakable conditions, a failure occurs, and without making any tests to verify his deductions, he assumes that the failure is the necessary outcome of the conditions he has observed, while it may be that the cause of failure is independent of them, and altogether the result of a condition or conditions that have escaped his notice. If he happen to be a known worker with some reputation, and he communicates his opinion to others, it is accepted as fact. It may, or may not, have detrimental effects upon future practice. It *may* certainly tend to hamper other workers. A specimen of harmless superstitions is found in the direction to *first* dissolve the metol, when making up this developer, before adding other ingredients. As a test I weighed out metol, hydroquinone, sodas, etc., and dissolved them at one operation in the water, without finding the slightest appreciable difference in the working of the developer. We are told that overheating a plate coated with albumen results in insolubility of the film. I accepted this as fact for years.

One day, while at work on a block order, I fell to day-dreaming (all discoverers are affected with this tendency) — the Penroses had become millionaires, Mr. Gamble had stepped into their shoes in the business, and had sent for me to take the place hitherto filled by his excellent self, when — "bang went saxpence" in the shape of the glass chimney of the lamp, over which I was whirling a zinc plate. It had got so hot as to become detached from the pneumatic holder of the whirler, and was some time before it could be handled. An ever-present spirit of inquiry prompted me to ink it up, with the result that it developed as though nothing untoward had happened. I looked upon this as another superstition knocked on the head. I read everywhere that to "cut" the dots of an H. T. negative a *weak* solution of "Farmer" reducer should be used. Now, I had often noticed in ordinary negative making that a *strong* solution would attack and destroy faint shadow detail some time before affecting the denser deposits. Now, after fixing, I soak a "screen" negative in fresh hypo solution for a couple of minutes; then plunge it into a very strong solution of ferricyanide of potash, and then immediately into water, keeping it moving. Result — a magic disappearance of the "burr" of the dots, and a negative of almost "wet" plate appearance. There may be a risk of unequal action, but I take it that this depends on the operator. Outside London no one is supposed to know anything, so I may be laughed at for my pains.



PORTRAIT

by MISS FRANCES B. JOHNSON





TWO PICTURES FROM NEW ZEALAND

BY A. E. WINZENBERG

We are indebted to Mr. Walter Burke, our New Zealand representative, for the two interesting photographs reproduced on this and the preceding page. The pictures are by Mr. A. E. Winzenberg of Maslerton, N. Z., one of the leading photographers in his country, and give an interesting yet brief insight into the sights of his native land.

The picture of the train climbing the mountains is especially interesting, the composition and treatment of the rather difficult scene being perfect. It illustrates well the importance of carefully selecting the view point when making such pictures.

The picture in the deer park is another example of difficulties successfully overcome. To corral as many fawns as appear in the picture, and to prevent their becoming alarmed while the exposure was being made, must have been no trifling matter. One animal alone is usually amply sufficient for the ordinary photographer.



IMAGES ON DOCTORS' GRAVES AT CHILKAT
Copyrighted by Winter & Pond

THE TOTEM POLES OF ALASKA

BY MRS. T. FROHMAN

There are, or were, four large and important Indian tribes in Alaska. The first are Kish-poot-wadda, by far the most numerous. They have for symbols the fin-back whale in the sea, the grizzly bear on land, the grouse in the air and the sun and stars. The next clan, known as the Canadda, have for symbols the frog, the raven, the starfish and the bullfrog. The Lacheboo, another clan,



STORY OF THE FLOOD



BY ARTHUR C. PILLSBURY

FROG TOTEM

have the heron and the grizzly bear for totems. The Lachshkeak have the eagle, the beaver and the halibut.

These creatures, however, are only regarded as the visible representatives of the powerful and mystical being or genii of Indian mythology, and as all of one group are said to be of the same kindred, so all the members of the same class, whose heraldic symbols are the same, are counted as blood relatives, and, strange to say, should the persons belong to or speak a different language, apart, and this relationship of obliterating circumstances.

The Indians point back to a remote age when their ancestors lived in a beautiful land, where, in a mysterious manner, the mythical beings they retain, re-vealed themselves to the heads of the families of that day. They relate the traditional story of an overwhelming flood which came and submerged the good land and spread death and destruction all about. Those of the ancients who escaped in canoes were drifted about and scattered the face of the waters, and where they found themselves after the flood subsided there they located and staked out their pre-formed new tribal associations.

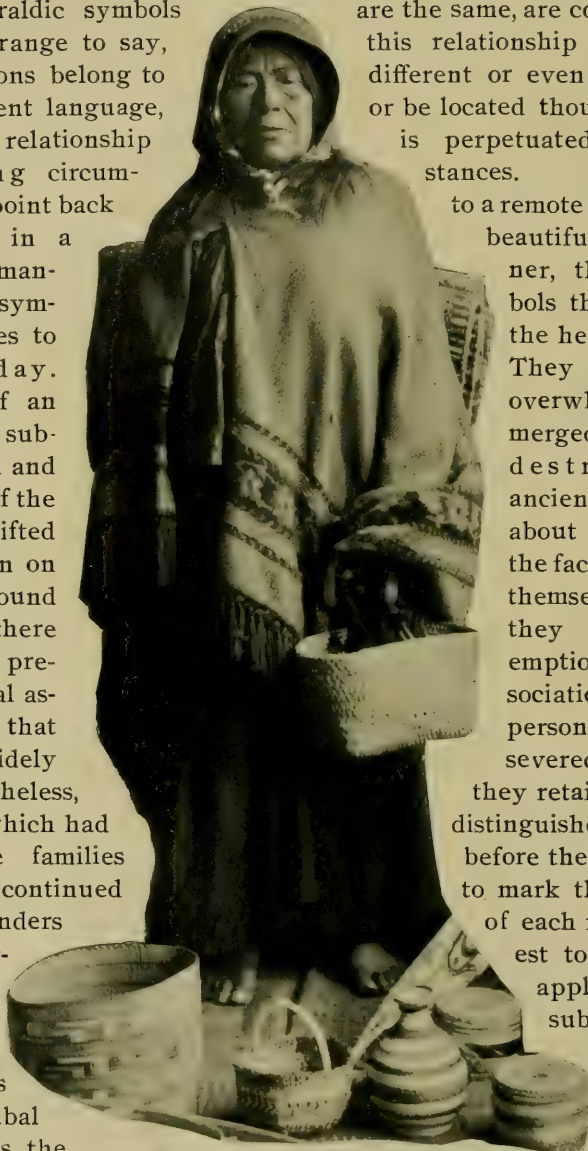
Thus it was that persons related by blood became widely severed from each other. Nevertheless, they retained and clung to the symbols which had distinguished them and before the flood. Hence the crests have continued to mark the offspring of each family.

It is of interest to note to what uses the natives apply their crests:

First. Crests subdivide tribes into social clans, and a union of crests is a closer bond than a tribal union.

Second. It is the ambition of all leading members of each clan in the several tribes to represent their rank by carving or painting their heraldic symbols on all their belongings, not omitting their household utensils, and on the death of the head of a family a totem pole was erected in front of his house by his successor, on which was carved or painted more or less elaborately the symbolic creatures of the clan.

Third. The crests define the bonds of consanguinity, and persons having



AN ALASKAN WOMAN

BY FRANK LA ROCHE

the same crests are forbidden to intermarry, that is, a frog cannot marry a frog, nor a whale a whale, but a frog may marry a wolf and a whale may marry an eagle.

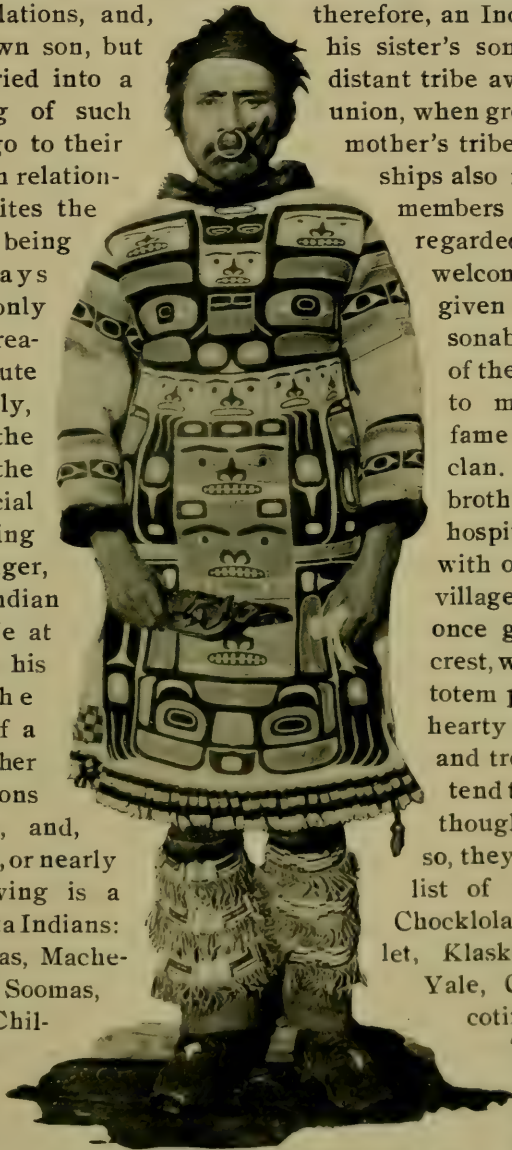
Fourth. All the children take the mother's crest, and are incorporated as members of the mother's family. Nor do they designate or regard their father's family as their relations, and, therefore, an Indian's heir or successor is not his own son, but his sister's son, and in case of a woman being married into a distant tribe away from her relatives the offspring of such union, when grown up, will leave their parents and go to their mother's tribe.

Fifth. The clan relations. A native invites the to a feast. They, being relations, are always at feasts, which are only clansmen within reach expected to contribute services gratuitously, success, for on the hangs the honor of the

Sixth. This social to do with promoting Indians. A stranger, ily, in visiting an Indian loss for shelter. He at belonging to one of his distinguish by the There he is sure of a be received as a brother

These relations discourage wars, and, Alaska are civilized, or nearly distinction. Following is a Columbia and Alaska Indians: katlahs, Metlakahtlas, Mache-Hamatsa, Haida, Soomas, stocies, Nahwittis, Chil-kimo, Bella Colla, Cloochepitch, Eticitt, Nootka, Thompsons, Tlingit, Douglas, Shus-Tlaiamens, Squamish, Loomis, Cowichans, Tsimshean, Lillovet, Kyoquot, Massett.

The Indian mythology is strange and peculiar. They believe that they are descended from the bird, fish, toad and bear, and all of their poles bear some relation to the belief. Each family takes one of the animals for its crest, and the emblems of that family are to be found scattered throughout the whole of the country.



A CHILKAT CHIEF

BY WINTER & POND

ships also regulate all feast-members of his own crest regarded as his blood welcome as guests, but given for display, all the sonable distance are of their means and their to make the feast a fame of the feast clan.

brotherhood has much hospitality among the with or without his family, needs be at no once goes to the house crest, which he can easily totem pole in front of it. hearty welcome and will and treated as such.

tend to foster peace and though the tribes of so, they retain their crest list of tribes of British Chocklolat, Mowezet, Kit-let, Klaskina, Bella Bella, Yale, Clayoquot, Mock-cotin, Quatsino, Kos-Tooquot, Nit Nat, Choockcit, Hib Salish, Hesquoit, Soughees, Fort waps, Seechelf,

CAMERA CRAFT

ISSUED MONTHLY BY
THE CAMERA CRAFT PUBLISHING COMPANY
114 GEARY STREET, SAN FRANCISCO

Entered at the Post Office in San Francisco
as second class mail matter

THE PICTURES AND ARTICLES IN THIS NUMBER ARE FULLY PROTECTED.
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ADDRESS ALL COMMUNICATIONS TO THE
CAMERA CRAFT PUBLISHING COMPANY

VOL. V.

SAN FRANCISCO, CALIFORNIA, MAY, 1902

NO. 1

With this number CAMERA CRAFT begins its third year. The "infant" is still growing.

Photography played no unimportant part in the recent street-car strike in San Francisco, and although but little attention has been paid to the fact, it still remains that this new agency in strike disturbances was in part responsible for the peaceful termination of what threatened to be a mighty struggle.

At the beginning of the conflict the leaders of the car men prevailed upon their forces and their friends to such an extent that the entire street-car system of the city was tied up without disorder or violence. This rather unusual procedure left the daily press in somewhat of a predicament. Not having the least encouragement upon which to hang rabid pen-and-ink sketches of howling mobs and riot scenes they were compelled to send out their photographers to make pictures of any unusual occurrences. The photographers, failing to obtain a glimpse of the "action" so desired by all newspaper editors, proceeded to make pictures of as many of the street-car magnates as were willing to walk in the sunlight. Other photographers made pictures of the peaceful street-car men standing in quiet groups around their headquarters, and on several occasions pictures were made at the frequent conferences, showing the railway directors and the strikers peacefully discussing the situation.

Therefore, the newspapers were filled with a series of remarkably good photographs of every notable person connected with the strike and their association with each other, thus presenting to the public, the strikers and the railway people, the true men concerned in the movement. Hence the public, the strikers and the railway officials seeing each other in the true light of Photography, influenced by no blood and thunder pictures and cartoons, showing the alleged inhumanity of capital and the sorrows of labor, realized that it was simply a business campaign to be settled amicably and as soon as possible. One newspaper, it is true, said something about the brutality, etc., etc., of the superintendent of the roads, but with it, published a large

photograph of the superintendent, showing him to be a venerable man, with white hair and whiskers, and exhibiting no symptoms of brutality whatever. Hence the harsh utterances of the writer were offset by the truth of the photograph.

Naturally a campaign such as this, attended by none of the viciousness common to strikes, soon resolved itself simply into a suspension of business pending arbitration upon disputed points. These points settled within the week the car men went to work, the railroad proceeded to prepare for another dividend, and not one disgraceful or unlawful act remained to cast a shadow upon the joy of the triumphant street-car men. Great is Photography.

Every indication points to a remarkably successful exhibition at Los Angeles this month. The June CAMERA CRAFT will contain full particulars and many illustrations. Remember the experience of the last Salon number and order early.

Judging from the comments of the St. Louis press it would seem that the Louisiana Purchase Exposition will be postponed until either 1904 or 1905. Although as yet no definite action has been taken, it is said that it will be impossible to get the grounds ready in the short time yet remaining before the proposed opening of the exhibition. As 1904 is the Presidential year there is a sentiment against holding the exposition during the time when the country will be agitated by the elections. It is, therefore, proposed to postpone the exhibition until 1905, when the country will again be in a normal condition.

This latter plan will suit the photographers, and particularly the photographers of California. It will give the profession as a whole more time to secure proper recognition at the fair, and it will enable the California contingent to secure the National Convention in 1903 instead of 1904. St. Louis will not press her claim for the Convention until her exposition is ready, and as San Francisco is the only other applicant at this time she should have no trouble in securing the great Convention.

Now is the time to begin to plan for the Convention of the Photographers' Association of America. If you are going, let CAMERA CRAFT know, so that, if possible, lower rates may be secured and better accommodations assured.

The photographer of today does not experiment as did the photographer of ten years ago. Now, the beginner finds everything smooth before him, in fact, nearly everything in the way of papers and preparations come ready for use, and the photographer finds little incentive to delve for things new and different from those furnished him at the stores. However, there are a few men in this country who have placed the whole of the photographic world under obligations to them, and it is to these men that the photographic press look to for original matter. If there were more of these sort of men the editors would have an easier time of it, and Photography would grow more interesting.

THE AMATEUR AND HIS TROUBLES

BY FAYETTE J. CLUTE

OUR CITY STREETS

Some time ago I received a very touching plaint in the shape of a letter from one of my correspondents in a large city. He had been unable to indulge his taste for Photography because time had not permitted him to go beyond the city limits for several months. I felt that he was putting a bad face on the matter, and yet I did not know just how to answer him. One evening, a few days later, I ran across an old newspaper published in this city. It contained reproductions of street scenes during the passing of a certain procession.

As is the custom with the newspaper photographers, these pictures were made with a large stop in the lens and, of course, only the figures in the foreground were sharp. It took but a few snips of the scissors and a little paste to show him that by using a rather long focus lens and a large stop, good composition, good concentration, good perspective and good lighting could all be secured with ordinary care. A section was cut from one end of a picture which simply showed the corner of a street with a distant vista rapidly falling away in definition. Using this as a background, I pasted a couple of figures thereon and the work was done. The figures were sharp, and with a few touches of India ink were roughly made to represent two men shaking hands. This and one or two others were sent to my friend.

Yesterday I received a batch of prints from him that are gems in every way. This is the way he did them: He picked out a likely corner one morning on his way to the office, going rather early to get the effect of the light. The next Sunday morning found him there with a couple of his friends. The camera was set up and subjects awaited. The first to make its appearance was a man on his way to work. He was intercepted at the right spot and asked for directions as to the nearest way to a certain place. Without knowing it he was photographed as one of the figures in "Three blocks down and turn to the right." A few minutes later the investment of a nickel resulted in "Morning paper, sir?" while a milkman called from the opposite

side of the street and asked to pose with a small can in his hand, and an upward look of inquiry on his face gave "I wonder if that's the right house?" To those who have used a camera in the early hours of the morning it is needless to explain that the lighting was good. The large stop and long focus gave atmosphere while the naturalness of the poses secured could not be improved upon.

VISTAS THROUGH TREES

Talking about trees I have another suggestion to make. Once in a while we are tempted to photograph some building or other object in such a way as to frame it on three sides with the trunks and branches of some convenient trees. The first few times we do this we are almost sure to get too close to the trees, with the result that the beautiful frame of natural foliage, that we fondly hope to secure, comes out in the print as distracting masses of ill-defined and badly arranged silhouettes. The remedy is to get back further. Secure enough of the trees to render their identity as such easily recognizable. Give long enough exposure to secure the detail that the eye sees in the near-by trunks of the trees, and by so doing you will get that atmospheric effect that is so desirable in scenes of this kind. In printing, the sunning down of the two upper corners of the print will often assist in concentrating the interest on the central portion of the view. In other cases the use of an oval or circular mat will help. Occasionally the square or oblong will be perfectly unobjectionable, but one must guard against distracting high-lights in the corners where they will draw the eye away from the point of interest nearer the center.

TRIM YOUR TREES

We are all of us photographing scenes containing trees, and often the upper half of our prints contains nothing but a meaningless mass of foliage which we have been beguiled into including in the picture by the charm its color had for the eye, or which we have left there simply because we did not wish to include any more of the foreground. Often the matter is even worse, as, for instance, when this mass contains an ill-arranged or poorly placed spot of white to

detract from the main point of interest. It is a safe rule to follow, that all such foliage should be trimmed away in the print unless it serves some good purpose. Should it contain lines or masses that assist the composition or, as is sometimes the case, keeps the horizon from bisecting the picture, it may be best to allow them to remain. On the other hand, you will find that you can improve a great many of your prints by trimming off a good portion of the top when they contain nothing but a mass of tree-tops and sky. Often a very ordinary print can be made into a most charming foreground study by one cut of the trimming knife.

HALATION PREVENTIVE

The several plans for preventing halation that are on the market are all more or less valuable, but a little caution is necessary if one would avoid trouble with at least one form of them. An amateur friend of mine recently filled his holders with plates that had been but a few minutes before carefully backed with black sheets of paper dampened and squeegeed into place. The moisture caused the septum of the holders to buckle badly, with the result that with the withdrawal of the slide a few hours later in order to make an exposure, the plate fell into the camera. On attempting to remove the holder the plate was forced through the bellows at one corner, doing some damage. This is not so bad as an experience another friend had several years ago. He smeared the back of several plates with a composition, the main ingredient of which was glycerine. His favorite journal had recommended it as a cure for halation. The plates were loaded into his holders; the weather became damp, and the glycerine displayed its greediness for moisture to such an extent that the holders were on the verge of falling apart when my friend came to expose the plates a few days later. He does not use backing compounds containing glycerine any more.

MOONLIGHT EXPOSURES

I found some items in an old notebook recently that may interest some of my readers. A few years ago I made some moonlight exposures, and I would advise you to do the same. Figure out the exposure you would give the scene in full sunlight with the stop you are going to use, and then multiply this figure by 100,000 and you will just about hit it. If anything, this is too long an exposure. The books tell you that the relative intensity

of sunlight and moonlight are as 500,000 to 1, but you will find this is another case where the books are wrong. I found it so after over-exposing a plate about six times too much. Another thing I found out was this: It is better to use a large stop and make short exposures than to stop down for sharpness and give an exposure extending into the neighborhood of an hour. In the latter case the extra sharpness gained by stopping down is more than offset by the lack of sharpness in the edges of the shadows, owing to the distance traveled by the moon during the exposure.

REMOVING VARNISH

A correspondent wishes to know how he may remove the varnish from an old negative that he desires to intensify. Four grains of caustic potash to the ounce of alcohol makes a solution that will, with the aid of a little rubbing with the finger-tip, remove nearly all kinds of varnish. Immerse the negative in the solution, rock the tray, and when the varnish begins to turn white rub the surface gently and it will come away. With some varnishes the result will not be so satisfactory. In this case try the alcohol alone for a few minutes, following with the original solution.

BROWN STAINS ON DEVELOPING PAPER

A large proportion of the inquiries that are made just at present are in regard to the brown stains that make their appearance on Velox, Vinco, Cyco and Argo papers. It is always blamed on the developer or the paper. Both reasons are wrong. You can take a sheet of the best linen ledger paper and the best non-staining developer you can buy, and working it just the same as you do were you making a print, produce the stains even worse that you do with the developing paper. The stains are caused by the developer being allowed to oxydize in the paper. If the exposure is made too short, demanding long development, the paper becomes stained. This staining appears worse in portions of the print that are allowed to come more in contact with the air while being developed than in those portions kept covered with the solution. Where this is avoided spots are often caused by allowing bubbles of air to form under the print when placing it in the fixing bath. This air combines with the developer in the paper, oxydizes it and produces a stain. An exhausted fixing bath also permits staining by allowing the developer to oxydize before fixing takes place.

NEGATIVE PAPER

One of my correspondents has made the discovery that Carbutt's aluminum film sheaths are just the thing for holding the new Rotograph negative paper. By the way, ten cents sent to The Rotograph Company, 101 Fifth Ave., N. Y., for the April issue of the *Photo-Critic* is a good investment. The issue contains as a frontispiece a paper negative that it is interesting to make a print from. Several methods of making the paper negative transparent are given, but I would advise the making of one or two prints from the normal negative first in order that the two results may be compared.

A FLASHLIGHT PICTURE

I received a print the other day from an Iowa amateur that is a beauty. It represents a young lady seated just inside a vine-hung window with the sunlight pouring through. Printed as it is on a yellow-toned paper it gives an excellent reproduction of sunlight, yet is unsuitable for reproduction, on account of its color. Full detail is shown in the leaves; there are no dark shadows on the face or figure, and yet the effect of sunlight, even to the spots of light on the carpet, is perfect. The picture was made at night. A strip, just enough to light up the side away from the window, of flash sheet was burned inside the room while a rather heavy charge was fired off just outside the window. Of course a good, generous reflector was used outside to prevent too great a waste of the light, and a few trials were required to determine the exact proportion required to secure the best and most harmonious balance between the two lights. That the results justify the trouble can be easily seen from the print before me.

FLASH POWDER

Every amateur has his favorite flash powder. It is the easiest thing in the world for the manufacturer of a new brand to secure glowing testimonials as to the increased actinic value of his product. While willing to admit that there may be a slight difference in the light-giving qualities of different samples, I am convinced that there is not the great variation that many suppose. If you get a fresh sample and do not try to burn too much in one charge you will have good results. The rapidity with which flash powder will deteriorate after being mixed is not as generally understood as it should be. Again, an attempt to discharge too large a quantity in one mass

results in great waste. The powder is blown through the air unburned. One-half ounce burned in one charge will give more light than one and one-half ounces burned in an equally compact mass. If distributed, the results are, of course, satisfactory, though the flash is, of course, of longer duration. In the light of this explanation it is easy to understand why the enthusiastic amateur believes the newest invention (particularly if not fresh) is the best. He uses a small charge of fresh powder and gets well-timed negatives. The old stand-by is piled up on the pan in generous measure, and, of course, makes a poor showing.

STAINS ON PLATINUM PRINTS

A correspondent in the southern part of the State has become enamored of platinum paper. In order to use it exclusively he has had to intensify a number of his negatives that printed fairly satisfactorily on carbon velox, but were a little too thin for the best results on platinum. These negatives all give him brown comets and stains on the prints. Anyone who has used mercury around platinum prints in order to obtain warm tones is aware of the trouble the least trace of it causes where black tones are desired. The trouble my correspondent complains of is stains on platinum prints, caused by the mercuric chloride allowed to remain in the film after intensifying by that method. As it is next to impossible to remove it completely, the best thing he can do is to varnish the negatives. Should he wish to avoid this in the future he must employ some other method of intensifying his negatives.

HAMMER'S LITTLE BOOK

"A Short Talk on Negative Making," while having special reference to the Hammer Plates, is of quite general interest, and condenses into a few pages the main points in the production of a good negative.

E. W. NEWCOMB'S NEW BOOK

The author is perhaps the most prolific writer Photography has ever produced, and it would seem scarcely possible that he could have anything new to tell us, but in this little work on the improvement of the negative he has shown us that he kept a store of good things in reserve. The subject is hackneyed enough, nevertheless we can assure even the old practitioner that he will find things new and valuable in this little brochure. We have read it with pleasure and profit and can only say "go thou and do likewise."

BACKING AS A CURE FOR HALATION

A correspondent in Pennsylvania complains that a certain make of backing that I had recommended to him failed to entirely prevent halation, and sends a print to prove that it does not do so. If he will examine the same window through a piece of smoked glass, when illuminated by strong light, as it was when the photograph he sends was taken, he will find that the haze is a real phenomenon due to the brilliant illumination of the atmosphere lying in a line between the edges of the window and the lens. This glare, which he finds in the photograph, is not true halation, and is not to be imputed to any fault of the plate or backing. When capable of being demonstrated in this manner, the visual proof of its actual existence as an objective phenomenon should free the backing from any suspicion of failure in doing the work for which it is intended.

HOME-MADE SILVER PAPER

Another correspondent in Pennsylvania is experimenting with plain salted paper, and fails to get good prints from thin negatives. The remedy lies in increasing the bichromate of potash in his salting solution. The normal solution should contain about one grain to each five ounces. More for paper intended to be printed from thin negatives and a little less for hard ones. The paper salted, keeps indefinitely; sensitized, it keeps in good condition but a few days. The sensitizing bath should be sunned occasionally, which will throw down the impurities, allowing the clear solution to be poured off. Printed quite deep and simply fixed in a ten per cent solution of hypo for fifteen or twenty minutes will result in a beautiful sepia tone, quite suitable for some subjects.

DO A LITTLE READING

A large proportion of my readers will, no doubt, experiment for the first time with lantern slides, enlargements, flashlight exposures, or some one of the special branches when summer, with its pleasant evenings, comes on. I wish to offer, while it is timely, a little advice on the subject. Do not go at it blindly. Decide just which one of the processes you wish to work, and then read up on the subject. In no art or craft are the special instruction books so complete and so low in price as in Photography. Any dealer will furnish you with a good book on any special subject at a price rarely to exceed

\$1.00; often much less. Calculating on the basis of material saved by heeding their instructions as against the waste that is almost sure to result from blindly experimenting, they are well worth many times their cost. Anyone who can make a fairly good negative can succeed with any of these processes if they will but go about it intelligently and understandingly. This they can only do by informing themselves concerning the general principles before attacking the process. This information can be obtained from a good book on the subject. Even the magazine articles are often complete enough to render failure next to impossible if their instructions are followed closely. The difference in results between the spasmodic enthusiasm of the uninformed novice and the sober determination of the one who has read up on his subject is easily apparent. The one quickly drops the matter in disgust, after having spoiled a few dozen plates or paper, while the other finds in the enlargement of his field of work an enjoyment and satisfaction that is in itself a generous reward.

NAPA VALLEY TOURS

The Southern Pacific Company has just announced a series of personally conducted excursions to the Napa Valley, a region almost unknown to the average Californian, but possessing a beauty equal to that of any section of the State.

For the information of our readers the following itinerary is given: Leave San Francisco on Thursdays, 9:30 A.M.; leave Vallejo Junction, 11:06 A.M.; leave South Vallejo, 11:26 A.M.; arrive Calistoga, 12:30 P.M. Returning, leave Calistoga, 12:45 P.M.; arrive Napa, 1:30 P.M. After luncheon a carriage drive of about two hours in the neighborhood of the City of Napa. Leave Napa, 3:58 P.M.; arrive San Francisco, 6:25 P.M. Skirting upper San Francisco Bay in both directions, passing the United States Navy Yard on Mare Island. Railroad passage, lunch and carriage, \$3.90. Tickets on sale during Wednesdays and on Thursday mornings at the San Francisco City Office of the Southern Pacific Company, 613 Market Street; San Francisco Ferry Office, foot of Market Street; Oakland Pier Ticket Office and Sixteenth Street Station, Oakland.

Mr. Willie Wolf, representing Messrs. Hirsch & Kaiser, is now in the South, from whence he sends very encouraging letters.

A PHOTOGRAPHIC DIGEST

BY H. D'ARCY POWER, M. D.

MOUNTING IN OPTICAL CONTACT

There is no better method of displaying the best qualities of a silver print than by mounting it in optical contact with glass. All its delicacy of gradation is made manifest without the unpleasant glossiness of a ferro-type print, for the reason that the polish of the glass is not on the same plane as that of the print. Recently there appeared in a contemporary the usual directions for thus mounting prints, viz., to immerse print and glass in a strong solution of warm gelatine (ten per cent for example) and withdraw them in contact, and then squeegee out the excess. A simpler method is not to dry the print after its final washing, but to leave it in water over night and next morning insert a piece of glass beneath it, while under water, lift the two out together, squeegee between two sheets of blotting paper and dry. This method is, of course, only applicable to gelatine prints. Always be careful that the print is a little smaller than the glass on which it is to be mounted, or the edges are liable to separate and cause detachment of the rest.

IMPROVING NEGATIVES

The *Professional and Amateur Photographer* mentions an excellent method of strengthening the high-lights of a negative, namely, to attach a piece of ground glass celluloid by its corners to the back of the negative and then strengthen the weak spots with pencil or stump. We have long used this method and know its advantages. The celluloid can be attached with LePage's liquid glue, or as the above-mentioned journal suggests, with isinglass dissolved in gelatine.

THE SAFE EDGE IN CARBON PRINTING

The safe edge is a simple thing, but a lot of bother, nevertheless. There are three good methods of dealing with it. One is to have a piece of clear glass in the printing frame with safe edge (lantern-slide binding is good) fastened thereon. This binding is liable to be detached, and a better method is to cut a piece of black paper sufficiently large to cover the center of a dry plate. When so protected expose the edges to the light of a candle and then develop and fix.

The resulting plate will have an indestructible safe edge. When the negatives are solely used for carbon printing, the method last described is applied to each individual negative, so that on development it is provided with a permanent safe edge. This last is the method employed by the writer, who prefers it to any other, both as a time-saver and for the excellency of its results.

THE BITUMEN PROCESS

A recent edition of *Photography* drew attention to the pictorial possibilities of the bitumen process, which is one of the first ever employed to produce a photograph. Bitumen, which is normally soluble in turpentine, chloroform and benzol ceases to be so after exposure in thin films to the action of light. Pictures thus produced have long been used in process work, but inasmuch as they have a fine golden brown color, they offer pictorial effects.

The bitumen of commerce is insufficiently sensitive, but Valenta has given us a process whereby its reaction to light may be greatly increased. This is to dissolve ninety parts of Syrian asphalt and ten parts of sulphur in carbon disulphide, then evaporate the latter and heat the residue at a temperature of 180° to 200° C. for six hours. The product must be kept in the dark. For use, two per cent of this is dissolved in benzol and coated on the surface to be printed on after exposure under a negative. The soluble residue is dissolved away by turpentine. When the picture is thus developed on glass and the transparency backed up with white, the result is said to be very charming.

AN EXPERIMENT IN REVERSAL

Much has been written by Professor Nipher and others on this subject and yet it is in no way exhausted. During the past week an accident brought to my notice some facts I have, so far, not seen mentioned. I was making a lantern slide and forgot to add the alkali to the pyro-metol developer I am in the habit of using. I had exposed the plate under the negative for the proper time, seven seconds, and was much surprised to find that the image did not appear. After waiting

some time, I opened the window of the lantern and let the light of the gas burner fall directly on the plate, and waited for it to fog, but after a few seconds the positive image that had refused to appear in the red light slowly came into view. Then it slowly disappeared again, and a negative image appeared in its place. This, when fairly strong, I fixed and it yielded a negative like the one from which it was printed, except that it was a little foggy and somewhat weaker. This case of reversal seems to differ from those previously referred to, in the fact that the exposure given was a normal one, and not the usual great over-exposure. The modifying factor would seem to have been the deficiency of alkali in the developer. I report the experiment, as it may lead some who are interested in work of this kind to examine further into the action of variously compounded developers on the property of reversal.

A NEW WAY OF INTENSIFICATION

The use of what is known as the "Dusting-on Process" has recently been advocated by the *British Journal of Photography*. So valuable is it likely to be, in many cases, that we give working details from the above source. The "Dusting-on Process" is well-known in process work, and is dependent on the fact that if gum, dextrine, honey and many other sticky and also hygroscopic substances are mixed with a bichromate, and then exposed to light, the sticky quality becomes lost. If exposed under a negative it will be lost proportionately to the light that reaches it, so that if after such exposure fine powder of any kind, such as graphite, be rubbed over the exposed surface, the powder will adhere to the high-lights but not to the shadows. It will be readily perceived how this may be applied to increasing the density of the high-lights. The working details are as follows: A solution is made of dextrine, one-half ounce; grape sugar, one-half ounce; ammonia bichromate, one-half ounce; water, ten ounces.

It is convenient to mix the dextrine and grape sugar in half the water, and the bichromate in the other half and then keep the two solutions separate as stock solutions. They are then mixed in equal proportions, as required for use, and filtered. After keeping a week or so, the dextrine and glucose solution may show a sign of mouldiness on the surface unless an antiseptic has been added, but this appears to do no harm when the mixed solutions have been filtered.

The negative to be intensified should be varnished, and it will be well, as a further protection, to give it a coating of collodion before the varnish is applied. The negative is now flowed over, as collodion is applied, with the bichromate mixture, in a room with a subdued light, drained and dried, either before a fire or over a spirit lamp. The heat should first be applied to the corner opposite to that from which the mixture was drained off, so that an even coating may be secured. The plate, still warm, is now laid, face downward, on another warm glass and exposed from the back, to daylight, for a few minutes. It is then taken into the room and again warmed to drive off any moisture it may have absorbed during the exposure. After the plate has cooled and rested a minute or two, a little powder of any color that may be desired is applied, sparingly at first, so "as to feel one's way," with a camel-hair brush with a somewhat swishing motion. Whatever powder be selected, it is essential that it be in the finest possible state of division. If plumbago be used, and on the whole that is the best for our present purpose, that known as electrotyping plumbago should be employed. In a few minutes, according to the hygroscopic condition of the atmosphere, the powder will begin to take where the denser portions of the negative have protected the film from light, and afterwards to the less denser parts in proportion; while, if the exposure has been approximately correctly timed, none at all will attach itself to the deepest shadow of the negative.

Should it be found that after a few minutes the powder does not "take," simply brush it off and allow the plate to rest for a few moments longer to take up more moisture from the atmosphere, and then reapply the powder. If then it does not adhere, it is probable that the exposure to light has been too long. The plate, however, may still be utilized by putting it for a short time in a damp cellar, or by gently breathing upon it, though the former is the preferable procedure.

If, on the other hand, it is found that the powder takes too freely, it shows that the action of light was insufficient or that too much of the hygroscopic material was used in the mixture for the existing state of the atmosphere. In this case, the plate must be at once warmed and the development recommenced directly it has cooled. In abnormally dry weather a mere trace of glycerine may,

with advantage, be added to the bichromated mixture, but it must be used with judgment, as a very little of it goes a long way in the powder process. When sufficient density has been obtained, the plate must be exposed to light for a time, half an hour or so, or less, to sunshine. This will render the whole of the film insoluble and non-absorbent. If it is found that sufficient density has not been secured, the negative, after sunning, may be re-coated with the bichromatic mixture, and the operations repeated again and again. In this way, with care, any amount of density may be obtained with even the feeblest of negatives.

Instead of applying the bichromated dextrine to the negative it may be applied to the back, and sometimes with advantage, and if vertical light be used for the exposure the image on the back will be, practically, as sharp as if it were on the front. It is obvious that the powder can, with a fine camel-hair brush, be applied locally to any parts of the negative, and withheld from others, so as to emphasize the intensification where required. The contrasts can also be enhanced by gently breathing through a small tube of paper upon those parts, so as to slightly add to the moisture locally, though this must be done with some care. It will not be found necessary to further treat the plate after the film has been finally fixed by light, as the very slight tint given by the bichromate makes no material difference in the time of printing. There is one thing we may direct attention to, which is that the plumbago gives a really greater printing density than appears to the eye. It is necessary to keep this fact in mind while working.

DR. GRUN'S FLUID LENS

In *Photography* for March, Dr. Edward F. Grun gives a most interesting article, descriptive of his new fluid lens and illustrated with many pictures taken therewith.

His first experiments were made in a theater, lit by three-thousand candle-power, and the camera placed as far back in the theater as possible, that is, about twenty-seven yards. He found that the length of exposure necessary decreases as the camera is brought nearer the subject, but that to increase the rapidity of the lens so as to reduce the exposure from four or five seconds to one-fourth or one-tenth of a second, it must be altered by increasing its aperture or decreasing its focal length.

By analogy with the microscope, with which he was familiar, he conceived the plan of introducing cedar oil into the air space between the combinations of an ordinary rectilinear lens, and found the focal length reduced about one-eighth. This lens gave a good picture with a one-second exposure to the light in the theater. It was, however, very crude, and the chromatic corrections were upset.

Many experiments were made before a perfected lens was obtained, but finally he has been successful, and the result is a special combination of lenses, united into an optical system by means of a fluid of high refractive and low dispersive power. Contrary to what has been generally supposed, from the impression made by pictures heretofore exhibited, the definition is excellent and, notwithstanding the large aperture, a considerable depth of focus is possible.

The following are some of the results claimed for this lens:

"To take a photograph in the theater with a quarter-second exposure when the foot-lights only are being used.

"To take a photograph in one-fiftieth of a second when two focussed limes are used.

"To take a biograph film in a theater with two focussed limes with an exposure of one-thirty-second of a second to each picture.

"To take a photograph with an illumination of forty-eight candle-power in an ordinary room, with an exposure of five seconds.

"To take a photograph at midnight with one-minute exposure with a fair moon.

"To take a photograph at midnight with five minutes' exposure with no moon.

"To take a photograph at midnight on a pitch black night, with no apparent light, in fifteen minutes. Evidently there is always some light about that is not capable of being perceived by the eye, but which will affect a photographic plate and impress upon it objects quite invisible to the eye, as I have found from actual trial."

We hope that Dr. Grun's lens will soon be placed on the market, which, as patents have been secured, is likely to be the case.

Mr. J. W. Tollman and wife and his brother, T. W. Tollman, all prominent in photographic circles in the Northwest, were in San Francisco recently on a pleasure trip.

Mr. J. D. Bertrand, long known in photographic circles in the West, is now with the Miniature Portrait Company.

THE TONING OF SILVER PRINTS

Almost every amateur tones silver prints; every photographic magazine, annual and text book is constantly concerned with directions and yet silver prints are for the most part badly toned. There is, therefore, good ground to cull some principles from the directions of two recent writers, viz., H. Dixon Shaw and W. E. A. Drinkwater. Firstly as to printing, Mr. Shaw points out that if a very weak negative is to be printed, a good result will be obtained if it be done under a sheet of green glass known as single flashed chromium. On the other hand, if the negative be too contrasty, the print will be softened by printing under blue glass. The same writer insists that the majority of failures are due to carelessness in making up the toning solution. That if insufficient alkali be used the gold remains in the auric condition, and tones unevenly and slowly.

On the other hand, a very small excess of alkali is equally ruinous. He, therefore, advises that the solution of chloride of gold be first neutralized with precipitated chalk, filtered after standing for thirty minutes, and to this neutral solution be added the proper amount of alkali, which, in the case of sodium carbonate, is one grain for every grain of gold. Mr. Shaw, writing on the same subject, advises the use of ten grains of ammonium sulphocyanide for each grain of gold, and an average strength of twelve ounces of water to the grain. In the matter of washing before toning, Mr. Shaw insists that if the whites are to be pure, the greatest care must be taken to rapidly wash out the silver salts.

He says: "When ready for toning I take the prints (usually not more than ten to fifteen at a time), place one by one in clean water, and as soon as limp immediately transfer to fresh water, and again transfer, so that in the first three minutes the prints get at least five changes of water; then one by one into a bath made of one-fourth ounce of salt and one-fourth ounce of washing soda to the pint. Allow two or three minutes, keep moving, then wash well in five changes of water for another five minutes." Mr. Drinkwater, speaking of tones, says there are but two acceptable tones, the chestnut brown and the purple black. Briefly put, the way to produce a good brown tone is to print delicately (not much darker than the desired ultimate result), tone lightly, removing the prints from the bath whilst still decidedly brown, and fix

for as short a time as is compatible with permanence. For purple black exactly the reverse order should be observed. Print deeply, until the shadows are lost, and the highlights tinted, tone until all traces of brown are gone, and fix for double the usual time. Finally, Mr. Shaw makes a suggestion that ought to be useful. He says that were it desired to mount ferrotyped prints with their high gloss, this may be accomplished by placing the prints in a five per cent bath of formaline prior to squeegeeing, after which they may be pasted on the mounts in the usual way.

PRINCIPLES OF LANDSCAPE ILLUMINATION

A great many of our most successful landscape photographs are the product of after manipulation of both negative and positive, with the object of obtaining better pictorial qualities than would otherwise be possible. So long as such manipulation produces *truthful* results it is not only unobjectionable but laudable. Too often, it is to be feared, the many factors that determine light and shade in a picture are not fully appreciated or understood, with results that to the critical eye are entirely disastrous. Those who are given to modifying their work will do well to bear in mind the following laws of lighting formulated by the late C. T. Cox, which were recently reprinted in the *Amateur Photographer* (English):

1. The sky at zenith is darker than at the horizon. Reason: The eye receives the light through a denser medium of air when turned toward the horizon.

2. Receding opaque surfaces darken in tone as they recede when the sun is *before* the spectator. Reason: In proportion to the increasing distance of the receding surface the shadow side of the roughnesses and inequalities are more and more presented to the eye.

3. When, however, the sun is *behind* the spectator receding opaque surfaces lighten in tone as they recede. Reason: In this case the bright side of the roughnesses and inequalities of the receding surface are more and yet more presented to the eye in proportion to the distance.

4. The above rules apply to surfaces when they receive the light; when opaque receding surfaces are in shadow they lighten in tone as they recede. Reason: Because in proportion to the distance will be the measure of intervening atmosphere.

5. Receding transparent surfaces lighten in tone as they recede from the eye. Reason: Because the more distant part of the receding transparent surface reflects the brightness of the horizon sky.

6. The above rule applies to transparent receding surfaces, whether receiving the light

or in shadow, only that if in shadow the increasing lightening of tone in proportion to the distance is yet more evident, on account both of the increase of the atmosphere and the reflection of the sky.

7. If the liquid surface is roughened by the wind it becomes opaque, and, therefore, subject to laws which affect opaque receding planes.

8. When the surface of the shadow side of an object and the plane receiving the shadow from the object are of the same local color, the shadow thrown will be darker than the shaded side throwing it.

9. The darkest part of a shadow will be that which is nearest the object casting the shadow.

10. The edge of the shadow, even with the brightest light, will be slightly softened off. This softening off of the edge will, of course, increase in proportion to the degree in which the light is diminished.

ANDERSON, IND., April 18, 1902.

The Editor "CAMERA CRAFT."

I am pleased to report that prospects for the Convention of the Photographers' Association of America, to be held in Buffalo, August 5th to 8th, are most flattering.

By an early start the executive officers made it possible to accomplish great good already. The interest shown by manufacturers and dealers is a good indication of what we may expect at the Convention.

The photographers of the country were never more enthusiastic than they are this year. It seems that everybody has the impression that the Buffalo Convention will be the best and greatest in the history of the Association, and from the interest manifested and the correspondence received, the attendance will certainly be very large.

The feature of one day for the manufacturers and dealers is creating great interest from that quarter, and the plan of making this Convention thoroughly practical, and the promise of exhibits from all the leading workmen of the country, augurs well for the success of the 1902 Convention.

We have secured a railroad rate of one and one-third fare, on the certificate plan. Hotels have made liberal concession in rates, which will be appreciated by our members.

The hall is the best we have ever been able to secure in the way of light, ventilation and size.

The Association is issuing a souvenir program of about eighty pages, finely illustrated with photogravures, which will contain the names and addresses of all the members. We expect to have this ready, and will mail a

copy to each member, thirty days before the Convention. This will give in detail all the information regarding the Convention. In my next communication I will give you hotel rates and all such information that will be of interest to your readers.

Yours, truly, C. R. REEVES, Sec'y.

KITE PHOTOGRAPHY

The securing of photographs of a birds-eye-view character, from lofty buildings and from balloons, has had a fascination for many workers. The late Mr. Woodbury designed a special form of camera, which was attached to a balloon about eight feet high, the lens pointing vertically downwards, and the shutter being actuated by electric current sent through wires woven into the cord which held the balloon captive. His idea was to obtain views of the surrounding country for use in military operations. To some extent kites have been tried for this same employment, and it is possible that for such work they may prove more serviceable than balloons, for they offer a less tangible target to the enemy, and even if hit by a bullet no material damage is done. A small hole in a balloon will, on the other hand, form a ready exit for its life-gas, and down it comes to Mother Earth. Much attention has of late years been centered on kite construction, and many improvements have been adopted. The kite of our boyhood, which has figured after the pattern of Queen Elizabeth's corset, and which had a tiresome habit of turning topsy-turvy and descending upon its head, has almost disappeared even from those conservative places, the toy shops. The approved form of modern kite can be gathered from the account published of the last half-yearly meeting of the Scottish Meteorological Society, when an "observation kite," intended for use in the South Polar regions, was exhibited. This kite is of the box or Hargrave pattern, the framework being of bamboo, and the measurements approximately seven feet square by three feet deep.

The kite "string" consists of pianoforte wire, of the kind used for deep-sea soundings, which has the merit of being both strong and light. Four miles of this wire, wound on a drum, will permit of the kite being raised to an altitude of fifteen thousand feet. As affording some indication of the lifting power of such a kite, it may be mentioned that a two-horse-power oil engine is required to turn the drum when the kite returns to earth. It

carries a photographic camera, enclosed in a bamboo frame to protect it from injury should the kite bump the ground. The shutter is worked by a "messenger" sent up the wire when it is desired to make an exposure. This seems to be the weak part of the design, for such a messenger would take a long time to traverse even a mile of wire, and its action must be uncertain. It is, however, difficult to suggest another means of working the shutter without greatly adding to the weight of the line connection. Possibly something of the slow-match kind would best solve the difficulty.—*British Journal of Photography*.

CORONATION INCONGRUITIES

The coming coronation is looked forward to by all loyal Britons with enthusiasm, and by a large number with a more commercial interest, for they hope that it will in some measure compensate for recent stagnant times. The London photographers should certainly have a busy time, for there will be few among the fashionable folk who are privileged to witness the ceremony who will not wish to have their portraits taken in their coronation costumes, so that the pictures can be handed down to posterity as memorials of their connection with a great historical event.

Of course, the bulk of the photographers' clients will be ladies, and most of these will have rich ultra cerulean blood flowing in their aristocratic veins so that nothing short of "the blue process" will do their pictures justice. But there will be a few whose vital fluid is of the more ordinary color, and whose former visits to the photographer's studio have been under far different circumstances. We refer to those ladies of the stage, and chiefly of the music-hall stage, who have been fortunate enough to find partners among our old nobility. These ladies take precedence according to the rank of their husbands, and we shall have therefore the curious spectacle of Miss Highkicker, late of the Frivolity Theater of Varieties, who is doubtful as to the identity of her grandparents, taking her place, as a matter of right, in front of grand dames who can trace back their ancestors, without a break, to the time of Noah. Perchance the same photographer who takes her portrait in her coronation finery can find among his stock negatives some of the same young lady in costumes which would hardly be in keeping with a sacred edifice like Westminster Abbey. We seem to remember the story of such a risen star, who, after her marriage,

treasured up a stage costume as a memento of a former histrionic triumph. She kept it in a cigar box. But times have changed for the new peeress, and a rich dress, with a train long enough for half a dozen ordinary dress lengths, compensates, in some degree, for the shortness of material which was such a distinguishing feature of her former apparel. Our late revered Queen did not invite these recent additions to the peerage to her drawing-rooms, but no one can dispute their right to seats in the Abbey to view the coronation ceremony. The old adage says, "Poverty makes strange bedfellows," but poverty is not in it with a coronation in bringing queerly-assorted folk together. The wise photographer will endeavor to entice as many as possible to his studio, and if he should recognize a previous customer in some lady of high degree he will do well to keep a discreet silence as to the past.—*British Journal of Photography*.

GLAZING DIFFICULTIES

There are very few of the ordinary everyday processes of popular Photography which appear to present so many difficulties to the tyro as does that of glazing or enameling his prints. Nearly one-third of the total number of questions that we have submitted to us deal with this subject, and in nearly every case the same defect is encountered, namely, the sticking of the prints to some part or other of the surface upon which they are dried. That being so, it would perhaps not be time altogether wasted if we ran over the conditions necessary to secure success, and the methods by which those conditions can be assured.

The commonest cause of prints sticking lies in the surface upon which they are squeegeed not being perfectly clean. If glass, ferrotype or celluloid is employed, it is best to go over it with a nail-brush and some yellow soap and water. The brush should not be so stiff as to scratch the comparatively soft surface of the two last-named supports, but, apart from precautions to prevent this, it should be freely used. When sufficiently scrubbed, the whole of the soap must be rinsed off by using plenty of clean water and a clean rag. Mere rinsing without rubbing, it is well to remember, does not remove within a reasonable time the last traces, even of a soluble substance, from a smooth surface such as glass. There must be a certain quantity of friction employed as well, and this should be done with

a piece of clean linen rag. The plate may then be allowed to dry.

Now, in the case of glass, a thin coating of some substance has to be applied to allow the prints to detach when dry. French chalk is often recommended for the purpose, but for quite a number of reasons a very thin coating of wax is preferable. In the case of ferrotype and celluloid, as both these substances have a surface of a somewhat greasy character, it is commonly stated that no such preparation is necessary. The use of soap has a tendency, however, to remove such greasiness along with the dirt, and no matter what may be the nature of the surface that is to be used, it is better to give it a preliminary treatment with waxing solution.

To do this, nothing is better than good wax dissolved in benzole. Such a solution can be bought of any dealer; it is sold among other things for the carbon process. In this form it is usually stronger in wax than is needed for glazing prints, and may be diluted with its own bulk of benzole to advantage. Thoroughly wet a piece of clean rag with the waxing solution, and rub it quickly over the whole dry sheet of ferrotype or glass, and *immediately* polish it with a fresh cloth free from fluff, using plenty of elbow grease. The sheet is then ready to receive the prints.

There is no doubt that prints that have been allowed to dry before squeegeeing have less tendency to stick than those that are taken direct from the last washing water, but if the other points referred to herein are carefully attended to, there will be no necessity for such preliminary drying. The prints should be alumed at one stage or other of the proceedings. We prefer to do this after fixing and well washing. The alum must then be washed out and the prints placed on the support with plenty of water between them, and well squeegeed down.

The drying, especially in hot weather, is the most important matter of all. Heat is fatal to success, and the prints must be given ample time to dry spontaneously and thoroughly if they are to come off freely. They may have one corner raised, and should then peel off almost of their own accord. If they do not, they are not sufficiently dry, and must be left for a longer time. If any force has to be used, they are sure to stick and tear, besides having a tendency for the surface to break, which spoils it altogether.

To summarize, we may say the causes of sticking are dirty supports, insufficient hardening of the film, incipient decomposition of

the gelatine due to heat, insufficient drying, and the absence of a thin repellent greasy film from the surface on which they are dried. Avoid these conditions, and glazing becomes perfectly simple and easy, and there is no risk of spoiling a single print.

The above excellent advice is from *Photography*, to which we would add that, if in place of alum a bath of formaline (one in twenty) be used, sticking will be a thing unknown.

PHOTOGRAPHS AS FIXTURES

It is not uncommon to see, in houses of modern design, photographs employed as decorative panels. Everyone will remember the beautiful frieze exhibited some years ago by Mr. Van der Weyde, in which ladies and gentlemen, apparently stepping forward in some such stately dance as the cotillion, and arrayed in the court costume of a century back, figured as a most elegant and attractive procession. Such a frieze would be a most suitable form of decoration for a ballroom, or for the vestibule leading thereto, and very possibly this clever bit of pictorial composition has found a resting place in more than one mansion. Such pictures, printed in carbon, and properly protected, are as able to defy the ravages of time as are pictures painted in oil color.—*British Journal of Photography*.

By the time *Outdoor Life* goes to press the Colorado Camera Club will begin to move into its new quarters. The fourth floor of the building on the corner of Sixteenth and Larimer Streets, known as the Appel Building, has been leased by the camera club for a term of years, and is being remodeled to conform to all the requirements of amateur photographers. The appointments will consist of a large and excellently lighted exhibition room, a portrait studio with a single slant light after the Inglis system (the studio having a dressing room and loading room), a good-sized printing room with good exposure, a toning room, enlarging room, locker room, artificial-light-paper printing room and dark-room provided with individual booths each with its own faucet, sink and ruby light. The furnishings and equipment will be new throughout, and includes a new 8 x 10 portrait lens and a most up-to-date camera and studio carrier. A professional photographer of long experience has accepted the position of manager, and will be in constant attendance at the clubrooms.—*Outdoor Life*.

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Sacramento photograph gallery cheap for cash. Doing good business. Sale on account of sickness. Kirk, Geary & Co., Sacramento, Cal.

Stolen—A series III., No. 4 Goerz lens, No. 72,301. If same is offered for sale kindly communicate with Reflex Camera Company, Yonkers, N. Y.

Expert lady retoucher would like the work of a few more galleries outside the city. Address Mrs. E. T. Bennett, 515½ Bush Street, San Francisco, Cal.

I have a 5 x 8 Blair Roll Holder; will sell for \$2.00 cash, or what you have to trade. Old postage stamps will do. H. W. Boers, 322 Erskine Street, Detroit.

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CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

114 GEARY STREET SAN FRANCISCO

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MR. RUDOLF EICKEMEYER, JR.

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They are all so well known in the photographic world as to need no introduction from us. Their reputations rest upon their records made with the camera. They have no axes to grind.

We congratulate those who are to take part in the contest and we congratulate ourselves upon securing such representative photographers to pass upon the merits of the work to be submitted.

CAMERA CRAFT

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CONTENTS, JUNE, 1902

FILLING THE OLLA— <i>Arion Putnam</i>	Frontispiece
THE LOS ANGELES EXHIBITION—ITS HISTORY AND SUCCESS— <i>Helen L. Davie</i> Illustrated.	43
A FEW WORDS OF CRITICISM BY THE EDITOR	45
INTERESTING PICTURES—A SERIES IN COLOR	59
AWARDS MADE AT THE LOS ANGELES EXHIBITION	77
AN INTERNATIONAL SIGNBOARD	80
EDITORIAL	82
PHOTOGRAPHY AT THE ST. LOUIS EXPOSITION	84
PROGRAM OF THE NATIONAL CONVENTION	87
THE AMATEUR AND HIS TROUBLES— <i>Fayette J. Clute</i>	89
A PHOTOGRAPHIC DIGEST— <i>H. D'Arcy Power, M. D.</i>	93
NOTES AND COMMENT	98



FILLING THE OLLA
by ARION PUTNAM
LOS ANGELES

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. V.

SAN FRANCISCO, CALIFORNIA, JUNE, 1902

No. 2

THE LOS ANGELES EXHIBITION, ITS HISTORY AND SUCCESS AND THOSE RESPONSIBLE FOR IT. BY HELEN L. DAVIE, CAMERA CRAFT'S REPRESENTATIVE

The pictures which made beautiful the home of the Camera Club during the first week in May are gone. Departed also is the brilliant company of delighted visitors which filled the rooms day and night during the exhibition; and the club quarters, shorn of their rose garlands, are again occupied by a band of earnest workers, while the various Salon Committees are enjoying a well-earned rest.

To the amateur photographers of Southern California the recent Salon has been a great object lesson. Removed so far from the art centers, with few opportunities to view the work of modern schools, our students have made the most of the occasion afforded them for studying the best pictures produced by photographers throughout the United States. While realizing as never before that we have much to learn, yet the general feeling has been that we are on the right road and will find ere long that we have artists in our midst whose work will compare favorably with that of the best.

There is probably not a member of the club who has not felt more or less discouraged when viewing the highest products of older and more experienced workers, but the momentary dejection has been succeeded by increased ambition and a desire to show something better than ever at next year's Salon, for the success of this first exhibit, with its great educational value, is fully appreciated by all, and an annual Los Angeles Salon is an assured fact.

While each and every member called upon by the committee responded willingly, devoting time and energy to the good work, yet the responsibility and heaviest burdens, as usual, were borne by the faithful few whose energy and untiring efforts made possible the success of the exhibition.

To Mrs. A. S. C. Forbes, an earnest and hard-working member of the Board of Directors, much praise is due for the thoroughly capable manner in which she planned and carried out the details of the exhibition. The semi-annual print exhibit, which came up for discussion at a board meeting early in the year, assumed larger proportions in the hands of Mrs. Forbes, who was appointed chairman of the committee by President Moore. Fiesta week having been decided upon as the best time for holding the exhibition, less than three months remained in which to prepare for it, and Mrs. Forbes began her work at once. Announcements were sent out and responses came quickly from all sections. Committees and sub-committees were appointed, and the work progressed rapidly. The catalogue

was in charge of Mr. A. S. C. Forbes, and the result justifies the time and labor expended upon its production.

The work of the Committee on Selection and Hanging, while not beginning until late in the day, was perhaps the most arduous of any in connection with the Salon during the few days given them in which to unpack, select and hang the five hundred and fifty pictures sent in. Mr. E. J. Killian, the chairman of the committee, scarcely took time to eat or sleep, while Mr. E. S. Hamilton and Mr. George Elliott proved faithful assistants. Mr. Perry Backus and Mr. L. J. Smith had charge of the electrical work, the lights being admirably arranged to show the pictures to the best advantage, while Mr. W. M. Frisbie was always at the place where he was most needed.

And the ladies did their share in contributing to the success of the Salon. While of little use when nails were to be driven and electric wires strung, they saw that the rooms were made beautiful with quantities of fragrant blossoms during the time the exhibition was in progress, and served on the Reception Committees both afternoons and evenings, making all visitors feel welcome by their cordial greetings and attention. Mrs. A. C. Moore, as chairman of the Entertainment Committee, worked faithfully, devoting much time to the entertainment of the club's guests. Mrs. Hattie D. Hoag, editor of *The Club News*, advertised the Salon extensively through the columns of her paper which made its appearance in enlarged form the first day of the exhibition.

The Jury of Award filled a very difficult position very acceptably. Conscientious and painstaking in their consideration of the pictures, their selections were eminently satisfactory.

It is doubtful if any photographic exhibition held in this country has had visitors from so many states in the Union as that which opened its doors in Los Angeles on the first day of May, 1902. Callers hailing from New York and San Francisco, from Portland and New Orleans, and many points between, filled the rooms and admired the pictures, while a glance at the visitors' register during the period covering the first week in May will reveal many names of prominent workers in club and literary circles throughout the country. The Salon was held simultaneously with the Biennial of the Federation of Women's Clubs, when brilliant women from all sections were gathered together for mutual help and advancement.

The opening night was one of the most pleasant of that delightful week. At an early hour the rooms, brilliant with electric lights and filled with the perfume of countless flowers, were thronged with a gay assemblage of society people, artists and photographers, all enthusiastic over the beauty of the exhibition. The club orchestra furnished music throughout the evening, while refreshments were served by the Entertainment Committee. Evening dress prevailed, the handsome gowns of the ladies adding a finishing touch to a scene of beauty long to be remembered.

At the earnest request of many of the visitors and their friends the exhibition was continued for one week longer than was at first intended, and during this entire week the clubrooms were crowded to their capacity. The club women attended in larger numbers than ever, and the good done the state by this exhibition is only limited by the possibility that the visitors carried away with them more impressions of the city and state than they will ever have time to remember.

A FEW WORDS OF CRITICISM UPON THE WORK OF EACH EXHIBITOR, LEVELED IN A KINDLY SPIRIT BY THE EDITOR, WITH REPRODUCTIONS OF STRIKING PICTURES



THE GREAT INTERROGATION

ANNIE W. BRIGMAN

ADLARD, T. K., Redlands, Cal. Mr. Adlard neglected to name his pictures, and they were catalogued "no title." This oversight, however, did not seriously detract from the prints, which were good.

ALEXANDER, HELEN A., Los Angeles. "Discretion, the Better Part of Valor," was the only print under this worker's name. It told its story well.

ARMBRUSTER, WM., Jersey City, N. J. A series of charming landscapes was Mr. Armbruster's introduction to California photographers.

BACKUS, P. F., Los Angeles. The two small portraits in this exhibit owed their chief charm to the careful treatment in matting and framing.

LE BRETON, ALBERT J., San Francisco. "Battista, the Fruit Girl" and "Old Mary" are the two best pictures of the series of ten.

BAILEY, ETHEL PHOEBE, Los Angeles. "Boiling Sorghum," the best of a very good series, is reproduced in this number.

BAKER, CHARLES, Washington, D. C. "A Study in Black," the only picture shown, was interesting chiefly because of the beauty of the subject, a young woman with an almost perfect profile.

BANGS, FRANK C., San Francisco. The series of lion pictures, which made Mr. Bangs' reputation secure, formed the principal portion of his exhibit, attracting much attention from the children, who attended the Salon in numbers.

BRIGMAN, ANNIE W., Oakland, Cal. Mrs. Brigman has shown wonderful improvement during the past few months, and her exhibit was one of the best on the walls. Several of the series showing her most original conceptions are reproduced.

BROWN, MAURICE W., M. D., Alameda, Cal. Dr. Brown's picture of the "Alameda Oaks" was one of the nicest tree studies in the exhibition.



QUERCY

BY MAURICE W. BROWN, ALAMEDA, CAL.

BULL, C. GEORGE, M. D., Alameda, Cal. "The Artisan" was a good conception, and merits praise for the absence of the usual excess of detail accompanying such pictures. "A Wet, Misty Day," although fuzzy to the limit, was well spaced.

BYRAM, JAMES F., Los Angeles. This series possessed but little interest, the subjects being too prosaic and the handling ordinary.

CARMAN, JULIA M., Plainfield, N. J. "Lake George, New York," was the title of a quiet little lake scene, full of sentiment.

CHARLTON, ROBERT T., Claremont, Cal. A picture of George Washington Rock was very good.

CLUTE, WALTER MARSHALL, Chicago. Several prints in the collection, notably "The Thistle" and "Moonlight," are full of poetry and sentiment. Mr. Clute seems to have the peculiar ability of placing a great deal of sentiment in a very small space, few of his prints being larger than 5 x 7 inches.

COWLES, C., Los Angeles. The nine clever prints by this worker were well worthy of the admiration they excited.

COE, CHARLES F., Los Angeles. The two "village" blacksmiths, by Mr. Coe are rather good, but the subject —

COHEN, EDGAR A., Alameda, Cal. "Morning Mists" and "Listening to Strange Sounds That Come Through the Fog" show remarkably fine atmospheric effect and are thoroughly good pictures.

COLLINS, KATE W., Los Angeles. This worker exhibited a number of carefully composed pictures, showing somewhat original ideas and painstaking care,

offset, however, by the use of broad, white mats, which made the prints look flat. "Spinning" is reproduced.

COOMBS, A. L., San Francisco. Mr. Coombs exhibited five of the prints which attracted so much attention at the Second San Francisco Salon, and his marine study exhibited at the first Salon, and reproduced in CAMERA CRAFT in February, 1901. This last picture was awarded the first prize in its class.

CRANDALL, N. E., Los Angeles. The three prints submitted were not far removed from the ordinary, being tight and hard.

CRANDALL & CO., C. J., Pasadena, Cal. Only one picture was shown, but that one was by request, and was worthy of praise.

CROWE, GEORGE M., Los Angeles. This exhibit, though varied as to subject and treatment, was one of the strongest on the walls, the worker having struck a strong, clear note in every picture.

DASSONVILLE, W. E., San Francisco. Two pictures comprised Mr. Dassonville's exhibit, both being in the best of his style.

DAVIE, HELEN L., Los Angeles. "It's Up to You," reproduced in this number, was exhibited at the Second San Francisco Salon. "The President's Message" and "Sister Celestine" both suffered through matting in ovals, being otherwise interesting.

DERBY, CARL W., Riverside, Cal. An excellent series of prints, showing considerable thought.

DESMOND, ANNA, Los Angeles. A number of splendid portraits, principally of children, made Miss Desmond's collection full of charm and interest. One of the pictures is reproduced.

DOLMAN, JOHN, Philadelphia. "Study of Sunlight," a stretch of sunlit



BOILING SORGHUM

ETHEL PHOEBE BAILEY, LOS ANGELES



A DUTCH CREEK
by OSCAR MAURER
SAN FRANCISCO



DECEMBER MEMORIES
by O. V. LANGE
BERKELEY, CAL.

woodland, was admirably handled. The picture, however, suffered from the eccentric manner of framing.

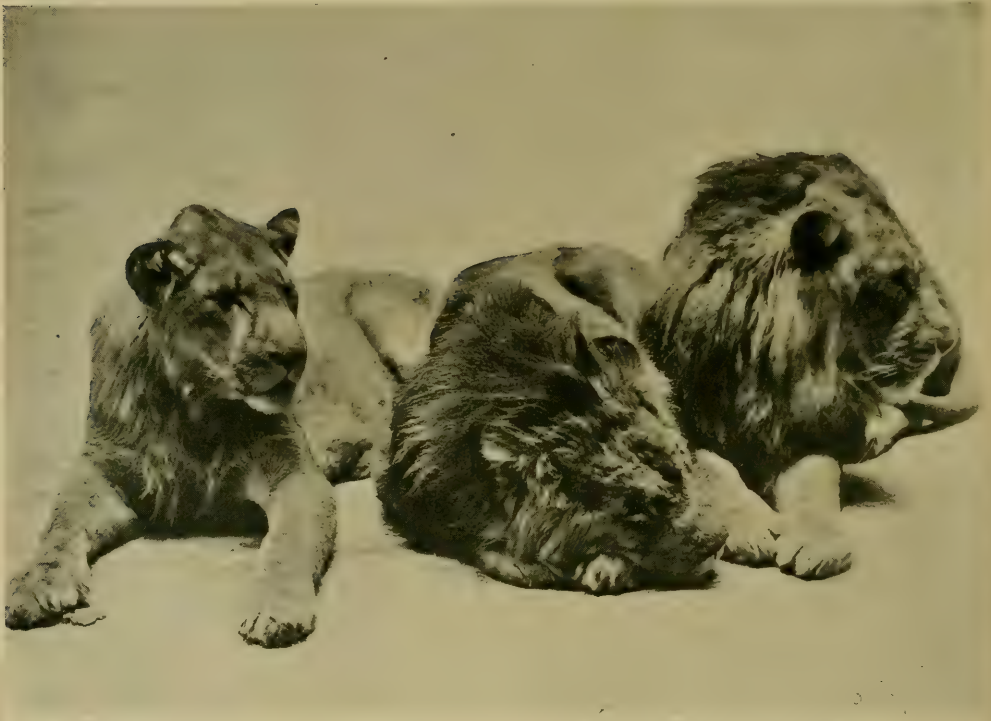
DOE, E. L., Los Angeles. All of the prints by this worker were too harsh, the high-lights being pure patches of white.

DUNN, W. A., Los Angeles. Five ordinary prints were rendered still more ordinary through the use of wide, shaded mats with embossed centers.

EDOUART, A., Los Angeles. A series of very clever animal studies by this worker attracted much attention and earned for him several prizes.

FORBES, A. S. C., Los Angeles. "A Bit of Old Holland," the most interesting of this charming series, is reproduced. This picture was awarded second prize in the marine class.

FORBES, MRS. A. S. C., Los Angeles. Mrs. Forbes was represented by five



KINGS OF THE ARENA

BY OLIVER LIPPINCOTT, LOS ANGELES, CAL.

prints, all of which were good. "Good Grazing" was awarded the first landscape medal.

FRISBIE, WILLIAM M., Los Angeles. A number of handsomely framed pictures, possessing considerable interest, were shown by this worker. Mr. Frisbie, however, has evidently made many far more satisfactory pictures than he exhibited because the technique of the entire series was unquestionably good, the subjects, however, possessing but little pictorial value.

GATCH, MISS HELEN PLUMMER, Salem, Ore. Miss Gatch was represented by several new and striking prints. "Spinning Song" (reproduced), being especially good, halation in this case being turned to good pictorial advantage.

GENTHE, ARNOLD, San Francisco. This well-known worker captured the judges completely, his exhibit being fairly plastered with multi-colored ribbons.

All of the pictures shown were in the San Francisco Salons with the exception of "Mme. Melba," which is reproduced.

GOE, CHARLES A., San Francisco. "A Bit of Golden Gate Park," a new print from Mr. Goe, is a charming landscape in soft brown. The other four prints in the series were shown at the last San Francisco Salon.

GOETTING, A. E., Cincinnati, O. "Divided Attention" was a very graceful study in lines.

HAMILTON, E. S., Los Angeles. "The Guardian of Peace," was the best of this series.

HURD, THEODORE D., Riverside, Cal. "Surf at Laguna Beach" would have been a good picture had the tone of the print been something other than that of fresh English peas.



U. S. BATTLESHIP IOWA

BY EDM. L. WOODS, SAN FRANCISCO

HURLBURT, C. H., Los Angeles. "Come Seven, Come Eleven," a collection of small youngsters shaking dice in the woods, bears out the title admirably.

JOHNSON, G. G., Los Angeles. Two well-composed Chinese pictures and a number of miniature landscapes made this series extremely interesting.

JUDD, O. W., Los Angeles. "A Glimpse of the Rockies," the only print exhibited, was a remarkably good rendition of a city street with distant mountains.

KELLER, J. HAMILTON, Camden, N. J. Four charming prints in platinum, showing care and taste in matting, made up this series.

KEMP, EDWARD H., San Francisco. "Eventide," a bay picture full of mystery and silence, was the only new print from Mr. Kemp.

KENNEDY, W. HOMER, Los Angeles. Mr. Kennedy has his own ideas



THE GEOGRAPHY LESSON

BY E. J. KILLIAN, LOS ANGELES, CAL.

of what constitutes a picture, and will eventually be heard from. His four prints, while not extraordinary, show thought.

KNOPE, FRED, Los Angeles. "Homeward Bound," a small print in black and white, was admirable as to composition and choice of subject.

KILLIAN, E. J., Los Angeles. "The Geographical Lesson," the most interesting of this series, is reproduced.

KUNZ, GEORGE F., Akron, Ohio. "Good Night" is the title of one of the nicest little bits of landscape shown. It was full of charm.

KRAUCH, C. A., Pasadena. This exhibit was by request and was composed of magnificent portraits.

LANGE, O. V., Berkeley, Cal. Mr. Lange exhibited two new flower pictures and a charming landscape. One of the flower pictures is reproduced.

LIPPINCOTT, OLIVER, Los Angeles. A splendid series of carbons was shown by this well-known southern worker. "Kings of the Arena" was awarded first prize in the animal class and is reproduced.

LITTLETON, W. G., Philadelphia, Pa. "Sunlight and Shadow," although a threadbare subject, was decidedly interesting.

MARCEAU, THEO., Los Angeles. This popular professional was represented by an interesting series of portraits showing grace and charm.

MARKS, FRANK E., Camden, N. J. Mr. Marks was represented by two fairly good things, "Ending of a Day of Toil" being a well-handled rendition of a somewhat hackneyed subject.

MAUDE, F. H., Los Angeles. The two mission studies by Mr. Maude were well handled, one of them, an interior, being awarded a prize.



OLD FRIENDS
by ANNIE W. BRIGMAN
OAKLAND, CAL.

MAURER, OSCAR, San Francisco. Mr. Maurer was awarded two medals, one in the landscape class, the other in genre. "A Dutch Creek," one of the winners, is reproduced. The other, "The Gossips," appeared in the January CAMERA CRAFT.

MOORE, A. C., Los Angeles. "Supplication" is the best of this series, being well spaced and in charming tone.

MOORE, MRS. A. C., Los Angeles. "A Message from Papa" is a picture with a well-told story bearing out its title admirably.



SPINNING SONG

BY HELEN PLUMMER GATCH, SALEM, ORE.

MUSHET, ROBERT, Los Angeles. A series of excellent portraits in soft platinum.

NEALE, CHARLES A., Oakland, Cal. A shadowy print of a small dog, entitled "Little Miss Muffit," was full of humor.

NORMAN, F. W., Los Angeles. The two prints by this worker, though nicely handled technically, were uninteresting.

NOTT, ELIZABETH W., Hammond, La. Miss Nott is a new exhibitor on this coast, and is represented by but one print, "Not Supper Time." This print, however, is good enough to arouse a desire to see more from the same hands.

PALMER, J. DWIGHT, Akron, O. Mr. Palmer had one good picture, entitled "Mother and Child." The simplicity and harmony in this picture was almost ideal.

PEABODY, HENRY G., Pasadena, Cal. A number of characteristic pictures of Western scenery formed the interesting feature of this exhibit.

PIATT, W. J., San Francisco. Ten pictures, comprising some from both

the First and Second San Francisco Salon exhibits of this worker, made the series an interesting one to the southern people.

PETZOLD, ADOLPH, Philadelphia. Three new prints in gum, showing a vast improvement over the same worker's exhibit at the last San Francisco Salon, formed the series. "A Fairy Tale" was awarded the first medal in the genre class.

PIERCE, C. C., & CO. Los Angeles. Nine splendid bits of Southern California landscapes and life in carbon and bromide were shown.

PILLSBURY, A. C., Los Angeles. Mr. Pillsbury's exhibit consisted principally of the pictures made by him on his recent trip to Lake Tahoe, some of them being reproduced in the April CAMERA CRAFT.

PUTNAM & VALENTINE, Los Angeles. A number of splendid pictures of famous California scenes comprised the exhibit, which was by request.

PALMER, J. DWIGHT, Akron, O. The three clever pictures from Mr. Palmer made one feel as if he had plenty of others in store. One of the three is reproduced.

PUTNAM, A., Los Angeles. This series, one of the best in the exhibition,



THE GUARDIAN OF PEACE

BY E. S. HAMILTON, LOS ANGELES, CAL.

was especially noticeable because of the harmony of the prints and the fact that each picture in the exhibit bore close relationship to the others as to choice of subject. "Filling the Olla," awarded a medal as being the best picture in the Salon, is reproduced in this number.

RAFERT, M. E., Los Angeles. "Willowbrook," the only picture by this worker, suffered from an overplus of detail.

RAMSEY & FRIZZELL, Los Angeles. "Fishermen," one of the most



TOILERS OF THE DEEP
by ANNIE W. BRIGMAN
OAKLAND, CAL.

striking pictures in this series, is reproduced for the purpose of teaching a lesson. Had one of the figures been upright instead of bending over, the print would have been one of the finest in the show. As it is, it narrowly missed being a good picture. "The Passing Day," a far more restful picture, is also reproduced. It is, indeed, a pleasing picture.

RANDALL, HERBERT, New Haven, Conn. Seven portraits and three studies, all in straight platinum and showing a remarkable ability on the part of the photographer to portray the real subject in front of his camera, justly earned him the first portrait prize and also a collection medal.

REED, W. W., San Francisco. "Clearing Up" was the title of a good landscape, full of atmosphere and distance. "A Mountain Road," the only other print in the series, has been reproduced in CAMERA CRAFT.

SCHULER, JOHN W., Akron, O. Two good pictures in sepia bromide formed Mr. Schuler's representation. "The Return of the Flock," a typical country landscape at sunset, was very good.

SCHUMACHER, FRANK, Los Angeles. At the request of the Camera Club Mr. Schumacher exhibited the series of portraits awarded a silver medal at the Paris Exposition.

SCOTT, WALTER A., San Francisco. Mr. Scott exhibited six prints, all of which were shown at the Second San Francisco Salon.

SMALL, ARTHUR, San Diego. "Sliding Down the Cellar Door" was either the result of a lucky snap or a case for the Society for the Prevention of Cruelty to Children. Anyhow, it will bring a smile every time it is seen. It is reproduced in this number.

SMITH, KATE E., Los Angeles. "Two Urchins," a picture of two Chinese boys, was interesting from an ethnological standpoint.

SMITH, BERTHA H., San Francisco. "Sunshine" was the title of the only print shown. "Sunshine" in this case was a diminutive Chinese youngster, the spacing being its most prominent feature.

SORVER, ROBERT D., Los Angeles. "Portrait of a Child," a fully lighted portrait of an intelligent youngster, grows upon one until it becomes a striking thing.

STECKEL, GEORGE, Los Angeles. Mr. Steckel exhibited, by request, a number of combination portraits of children and a handsomely framed series of carbon portraits.

STEWART, WILLIAM F., Los Angeles. "An Interesting Study," shows too careful posing, and would have been vastly improved had the table been placed differently.

STREET, W. J., San Francisco. Mr. Street's series attracted much attention, the harmonious handling of the mats being especially commented upon. "Green Winged Teal," a decorative panel showing skilful spacing, is reproduced in this number.

STRICKLAND, D., Los Angeles. A series of excellent carbons of familiar California scenes, showing a careful selection of the view-point in each case, made this exhibit an interesting one to the Eastern visitors who attended this Salon.

STUBBS & MERRICK, Los Angeles. A number of attractive portraits were shown, "A Little Rogue" being especially worthy of notice.

THOMPSON, FRANCES, San Francisco. A number of soft-toned pictures, showing considerable skill in the handling of light, formed the principal feature of the series. "Le Printemps," one of the prints, is reproduced in this number. It is a charming pose.

TOWLES, WILL H., Cumberland, Md. The feature of this worker's exhibit was "Gaspard," an admirably posed picture of a miser hugging his gold.

VALENTINE, C. O., Los Angeles. Two green carbons by this worker were admirable in technique but were a trifle light in composition, too much of the landscape being included in the pictures.

WALKER, WILL H., Portland, Ore. This series was exhibited at the Second San Francisco Salon, where it attracted favorable comment.

WHITE, G. KNIGHT. Mr. White captured a prize for his marine "At the Wharf." All of this series were on the walls at the last San Francisco Salon.

WIGGINS, MYRA ALBERT, Salem, Ore. This well-known northern worker was represented by but one picture, "Heimweh," which was reproduced in the January CAMERA CRAFT.

WILD, A. G., Los Angeles. "Hollenbeck Park" is a charming tree study.

WOODS, EDMOND L., San Francisco. The "United States Battleship Iowa," the best of the series, is reproduced.



IT'S UP TO YOU

BY HELEN L. DAVIE, LOS ANGELES, CAL.

A FEW OF THE
MOST INTERESTING
PICTURES IN THE
LOS ANGELES
EXHIBITION, MAY
FIRST TO SEVEN
TEENTH, NINETEEN
HUNDRED AND TWO



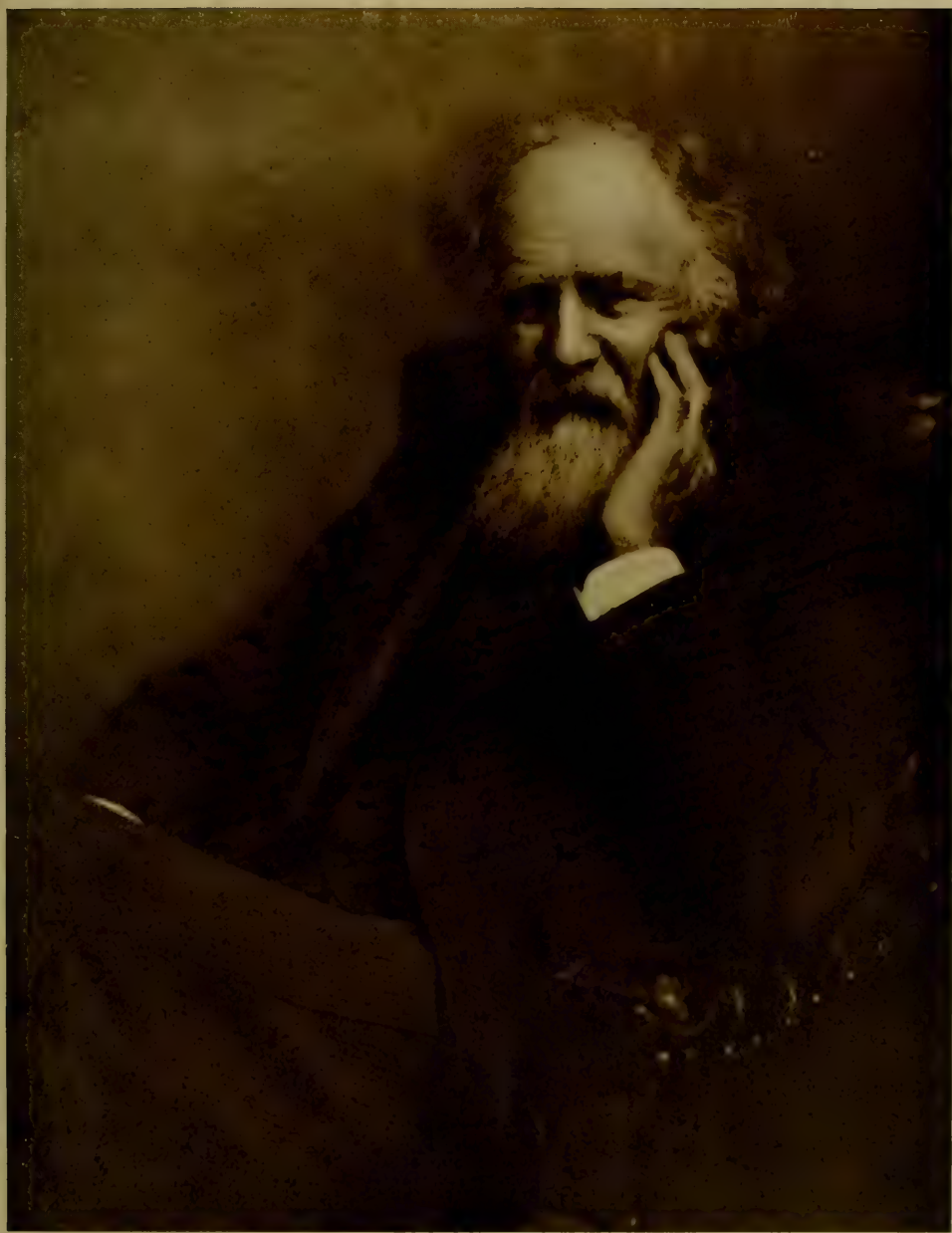
STUDY OF MISS W.
by OSCAR MAURER
SAN FRANCISCO



THE PASSING DAY
by RAMSEY & FRIZELL
LOS ANGELES



GOLDEN DAFFODILS
by WALTER MARSHALL CLUTE
CHICAGO, ILL.



PORTRAIT
by HERBERT RANDALL
NEW HAVEN, CONN.



MENDING NETS
by W. J. PIATT
SAN FRANCISCO



WATCH
by C. A. KRAUCH
PASADENA, CAL.



FLORENCE
by ANNA DESMOND & CO.
LOS ANGELES

AWARDS MADE AT THE LOS ANGELES EXHIBITION

The following awards were made at the Los Angeles Exhibition:

Best picture at the exhibition, "Filling the Olla," by Arion Putnam, Los Angeles.

Landscape Class—First, "Good Grazing," by Mrs. A. S. C. Forbes, Los Angeles; second, "A Dutch Creek," by Oscar Maurer, San Francisco; third, "In the Grand Canyon," by Arion Putnam, Los Angeles.

Portrait Class—First, "Portrait," by Herbert Randall, New Haven, Conn.; second and third, "Mme. Melba" and "Study for Portrait," by Arnold Genthe, San Francisco.

Marine Class—First, "A Marine Study," by A. L. Coombs, San Francisco; second, "A Bit of Old Holland," by A. S. C. Forbes, Los Angeles; third, "At the Wharf," by G. Knight White, San Francisco.

Animal Class—First, "Kings of the Arena," by Oliver Lippincott, Los Angeles; second, "Elk," by W. J. Street, San Francisco; third, "Salvo," by E. Edouart, Los Angeles.

Still Life—First and second, "December Memories" and "Night-blooming Cereus," by O. V. Lange, Berkeley.

Architectural Class—First and second, "Ruins of Capistrano by Moonlight" and "Corridor and Chapel, Capistrano," by Arion Putnam, Los Angeles.

Genre—First, "A Fairy Tale," by Adolph Petzold, Philadelphia; second, "The Gossips," by Oscar Maurer, San Francisco; third, "Old Friends," by Annie W. Brigman, Oakland.



SPINNING

BY KATE W. COLLINS, LOS ANGELES



FISHERMEN

BY RAMSEY & FRIZELL, LOS ANGELES

The first prize for the best collection was awarded Arnold Genthe of San Francisco; the second, to Herbert Randall of New Haven, Conn.

Certificates were awarded the following exhibitors for the excellence of their display:

E. H. Kemp, San Francisco; M. W. Brown, Alameda; Helen Plummer Gatch, Portland, Or.; B. H. Smith, San Francisco; Arion Putnam; Herbert Randall; A. Steckel; O. V. Lange, Berkeley; E. Cohen; Oscar Maurer; W. W. Reed, San Francisco; E. Edouart; C. C. Pierce; F. C. Bangs, California Camera Club; W. J. Street; W. J. Piatt, San Francisco; A. L. Coombs; J. W. Schuler, Akron, O.; Adolph Petzold; W. E. Dassonville, San Francisco; E. L. Woods, San Francisco; Annie W. Brigman; E. S. Hamilton, Los Angeles; E. J. Killian, Los Angeles; Ramsey & Frizell, Los Angeles; Kate W. Collins, Los Angeles; Anna Desmond, Los Angeles; Oliver Lippincott; H. G. Peabody, Pasadena; Carl E. Ackerman, San Francisco; Walter Marshall Clute, Chicago; Ethel P. Bailey; W. H. Walker, Portland, Or.; R. D. Sorver, Los Angeles; G. F. Kunz, Akron, O.; R. Mushet, Los Angeles; Theo. Marceau, Los Angeles.

The Committees of the Salon were:

Mrs. A. S. C. Forbes, Chairman.

Jury of Award—J. Bond Francisco, Prof. W. C. Judson, Prof. Herbert B. Perkins, Will E. Chapin, C. H. Newcombe.

Executive Committee—F. Q. Story, Chairman; A. S. C. Forbes, Secretary; A. C. Moore, O. A. Valentine, W. D. Campbell, O. Granicher.

Committee on Selection and Hanging—E. J. Killian, F. H. Maude, A. Putnam, Geo. M. Crowe, A. S. C. Forbes, George Elliott, L. L. Merrick, E. S. Hamilton, Dr. W. R. Jones, W. J. Rouse.



MME. MELBA
by ARNOLD GENTHE
SAN FRANCISCO, CAL.

AN INTERNATIONAL SIGNBOARD

Photogram, of London, England, sends us the following outline of a plan that should meet the approval and hearty co-operation of every photographer:



Where this sign is seen a darkroom is provided for the use of tourist photographers. A list of such darkrooms all over the world is published by the editors of the "Photogram," Effingham House, Arundel Street, London, W. C.

"Where this sign is seen photographers may know that there is darkroom accommodation ready for their use, either 'free to customers' or for a small charge. The co-operation of photographic travelers and of photographers, dealers and hotel-keepers who have public darkrooms, is invited, in order that a distinctive mark of the public darkroom may become as well known to the touring photographer as is the badge of the Cyclists' Touring Club to the wandering wheeler.

"We wish to establish a sign 'that he who runs may read,' so that a photographer in a strange town, hurrying from the railway station to the cathedral or other object of interest, may see at once the place where he can fill up his plate-holders or change his spool of film. We want the cycling photographer, pedalling into a village with his day's exposures on his back, to be able to see, without dismounting or making any inquiry, the hotels at which he will be able to spend an hour in the evening developing a plate or two, to verify his working during the day. We want the traveler on a pleasure steamer to see the sign that it bears a darkroom as plainly as he now can see the sign of the refreshment bar; for it is a curious fact that photographers often travel for hours (we have known cases where it has been days) wanting the use of a darkroom, and never thinking that there was one on the vessel; and we have met many cases of men who took elaborate precautions to block their bedroom windows with rugs in hotels which were provided with convenient darkrooms.

"We want owners of public darkrooms to place a simple, conspicuous sign in some prominent position. We want touring photographers to tell those who lend them darkrooms of the existence of such a sign. We want officers of photographic societies and other photographers to inform their friends of the existence and meaning of such a sign.

"The co-operation of foreign and colonial photographers, societies and darkroom owners is invited, for the value of a darkroom sign will be greatly increased if its use can be made universal."

Photogram will shortly publish a directory containing a list of all owners of public darkrooms, and asks assistance and advice from those interested. CAMERA CRAFT is heartily in favor of the movement, and will undertake to co-operate with its English contemporary and the American photographers toward a successful culmination of the idea.

HUNTING PICTURES

CAMERA CRAFT contemplates the issuance of a special number devoted to hunting some time during the early fall, and requests its readers to assist in making the number a notable one by sending in all of the good photographs of hunting scenes, animals and kindred subjects in their possession.



SLIDING DOWN THE CELLAR DOOR
by ARTHUR SMALL
SAN DIEGO, CAL.

CAMERA CRAFT

ISSUED MONTHLY BY
THE CAMERA CRAFT PUBLISHING COMPANY
114 GEARY STREET, SAN FRANCISCO

Entered at the Post Office in San Francisco
as second class mail matter

THE PICTURES AND ARTICLES IN THIS NUMBER ARE FULLY PROTECTED.
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CAMERA CRAFT PUBLISHING COMPANY

VOL. V.

SAN FRANCISCO, CALIFORNIA, JUNE, 1902

No. 2

As exclusively predicted by CAMERA CRAFT last August, Mr. George Eastman and his associates have succeeded in forming a combination of the leading manufacturers of photographic dry plates in the United States, with a capital stock of \$40,000,000. The companies interested, as stated by the Associated Press, are the Hammer Dry Plate Company, the M. A. Seed Dry Plate Company, the Stanley Dry Plate Company and the Eastman dry plate interests.

Nothing has so far been given out by the organizers of the combination as to the future policy to be adopted, but no immediate or radical departures are anticipated.

The eyes of the world have, for the last month, been concentrated upon the island of Martinique, that charnel-house of the dead, where the lives of thirty thousand human beings were snuffed out in an hour. Hundreds of photographers are now on the scene, and before many days the picturesque horrors of that once fair island will be shown in every village and hamlet in the land.

Because of internal strife within the New York Camera Club, resulting in the election of an entirely new board of officers, Mr. Alfred Stieglitz and his associates on *Camera Notes*, the club quarterly, have withdrawn from the publication. What effect this action will have upon the future of the publication is problematical. Mr. Stieglitz established *Camera Notes* some five years ago, under the auspices of the club, assuming the burden of expense, and guaranteeing the organization against further expenditure than was then being appropriated for a semi-annual leaflet. As a further condition of the arrangement, Mr. Stieglitz stipulated that the entire policy of the publication was to remain in his hands.

The twenty-one numbers published cost, approximately, eighteen thousand dollars, of which the club paid eighteen hundred and fifty dollars, receiving in return, under the terms made by Mr. Stieglitz, over one-third of the entire edition free of charge. Thus, the New York Camera Club has

had the enthusiastic service of the entire staff of *Camera Notes* and its product at a trifle over three hundred dollars a year.

While CAMERA CRAFT has never been in thorough accord with the policy of *Camera Notes*, such differences can be waved aside at this time, and we can but openly lament the withdrawal of Mr. Stieglitz and his associates from the publication. It does not appear in the official record of any of the recent meetings of the Camera Club why this action on the part of the staff of *Camera Notes* became necessary, but it is not assuming too much to presume that they were actuated by the same motives that have compelled many of the leading photographers of the country to withdraw from active participation in the affairs of similar organizations. In every organization of like character there creeps an element opposed to any departure that does not directly concern its welfare, looking only to its own social advancement, and relegating to the rear the earnest, yet modest, few who are the real life and soul of the organization.

We regret deeply the turn affairs have taken in our sister city across the continent, and cannot but believe that the cause of Art Photography has suffered therefrom.

Photography has progressed wonderfully during the past several weeks. An Eastern tailor has patented a system by which a man is measured for a suit of clothes by Photography, and Eduard J. Steichen's photographs have been passed, but not hung, by the Jury of the Champs de Mars.

And now the English photographer is in his glory. The pomp and splendor of the coronation, the largest assemblage of human beings ever gathered in the world, the blaze of color in London streets and all that assists to make this the most gorgeous festival of modern times, will be portrayed by hundreds of thousands of enthusiasts to be handed down to posterity. In future the ladies of the court will not have to delve into musty tomes and faded drawings for particulars as to the correct costumes and other details for the occasion. A few leaves in the family album will reveal photographs showing all that it is necessary to know.

Camera Craft congratulates the Camera Club of Los Angeles upon the successful outcome of the first Los Angeles Salon. While there were a few mistakes incident to the first exhibition, they will not occur again, and we may look upon the Los Angeles Salon as a fixture.

On succeeding pages we have reproduced, in its entirety, an article from the *June Studio*, without doubt the most influential of the journals devoted to Art. In the article the publication, representative of the class who have sought to debar Photography from the Art Building at the St. Louis Exposition, adopts a broad-minded view that cannot but have its effect upon the management of the Exposition.

The St. Louis show has been postponed until 1904, and it is now possible to bring about a reconsideration of the ruling made by Exposition authorities. A few more well-balanced and healthy protests from the photographers, together with the support of the Art journals, will be certain to effect the desired result.

PHOTOGRAPHY AT THE ST. LOUIS EXPOSITION*

The *Studio* has received from Mr. J. C. Strauss of St. Louis copy of a correspondence between himself and Colonel J. A. Ockerson, Chief of the Department of Liberal Arts of the forthcoming Exposition. The subject of the correspondence is the locale to be assigned for the exhibition of photographic prints at the Exposition. Shall all photographic prints be considered in a lump, whatever their character or intention; whether, for example, they are representations of machinery or of human beings, scientific records or made with pictorial intent; shall, in fact, all prints of whatever kind be clubbed into an indiscriminate mass and exhibited alongside the cameras and photographic materials, in a building that contains a heterogeneous collection of exhibits, so diverse as plumbing and linen goods, soap and astronomical instruments? Or shall the photographic print, whose sole end is to be an artistic picture, be treated as a separate product of Photography and be assigned a position in the Fine Arts Building, under the same restrictions of having to be passed upon by an expert jury before admittance as are usual in the case of oil paintings, water colors and black-and-white work? In a word, is it to be recognized that some photographers are artists and their prints artistic?

Before betraying our views on the merits of the controversy, let us briefly analyze the correspondence. It opens with a letter from Colonel Ockerson, acknowledging certain communications from Mr. Strauss and asking him to call and discuss the matter. Mr. Strauss rejoins with an invitation to the Colonel to step into his studio, where he may see and hear evidences of the reasonableness of Mr. Strauss' contention, that "there should be a division of photographic displays; one, of the commercial side, including apparatus, materials, processes, etc., the other, the art side. The two are wholly distinct." The Colonel acknowledges the letter which he has read "with much interest," and will take an early opportunity of calling. Presumably the interview took place, and Mr. Strauss urged some definite plan, for he writes later to the Colonel: "In my first letter to Governor Francis with reference to our World's Fair Photographic Exhibit, I claimed that the plan suggested by me would arouse interest in every part of the civilized

globe." And he encloses a letter he has received on the subject of the exhibition from the South Australia Photographic Society. Three weeks later he forwards others, respectively from the American Institute of New York and the Camera Club of Nelson, New Zealand, and concludes: "But none of these people, whether they are in New York or in far-away New Zealand, will be represented at St. Louis in 1903 unless you can arrange to place their productions in the Art Building." The Colonel writes: "I hope you will appreciate the fact that, personally, I shall be very glad to meet the wishes of the photographic fraternity. I doubt, however, if anything can be done that will change the decision already made to leave all phases of photographic work in the Department of Liberal Arts." The following day the Colonel supplements this with the following letter (given in entirety):

In thinking over the situation as to Photography, it occurs to me that the photographers are taking entirely the wrong stand in their claim of "Photography in the Fine Arts Building or nothing."

Now, in the first place, as I understand it, photographers wanted to flock entirely to themselves and put up a building of their own, at their own expense, in which should be housed *everything* pertaining to the photographic profession. It was not then considered out of place for the artistic photographer to touch elbows with so-called commercial branch of Photography. Why should it be more so if housed in a group of the Liberal Arts Building?

Under existing conditions, would it not be best for the photographers to take the ground that they will prove themselves equal to the emergency and will not be smothered out, but will club together and prepare a place in the Liberal Arts Building for their art work that will establish, beyond a doubt, their claim to a high position as a fine art? Get up something that will make the Fine Arts Department "green with envy." By this means you can establish your position before the world and set the question as to your rights forever at rest.

Your art is evidently still in a transition state. You are making giant strides towards greater perfection every day, and no man can yet say where the end will be.

It strikes me that it would be very undignified and unworthy of your exalted profession to stay out of the Exposition because you cannot get *all* you want. That it would be far better to raise a fund to fix up a gem of a place in the Liberal Arts Building, according to your own ideas and plans, and fill it with pictures that will challenge the skill and the admiration of the old-school

*Reprinted from the *International Studio* for June.

artists who hold that fine art is confined exclusively to work done with the brush and the chisel. Challenge them in this way to measure lances with you, and I am confident that in the end you will be more than glad that you did not yield to the first impulse to hold aloof.

To this very laudable end I pledge you all the assistance in my power.

Trusting that you and your associates will come to see this matter in the light set forth in the above lines, I beg to remain,

Yours very sincerely,

(Signed) J. A. OCKERSON,
Chief, Department of Liberal Arts.

The following is a quotation from Mr. Strauss' reply:

I am indeed pleased to receive your letter of the 21st inst. because it evidences a decided interest in the photographic display, and it is gratifying to know that you regard an artistic exhibit one to be desired.

However, the premise on which your argument is based is in error as to some points of fact. The subject of the proper representation of Art in Photography at our World's Fair was first suggested in a letter written by me last July to Governor Francis. The essential points in the plan outlined by me were:

"Have a pavilion devoted exclusively to pictures produced by Photography, provided same give evidence of artistic feeling. The display of pictures should be along Salon lines; that is to say, only such should be exhibited as are considered worthy by a competent committee of artists, not photographers. No distinction to be made between amateurs and professionals."

You will see that the request made last July, and it was encouragingly received by Governor Francis, was identical with that now made, except that some months later the Executive Committee of the Exposition rejected the "separate pavilion" idea on the ground of cost, and we have since substituted "Art Building for Art Photography." At no time did the Association of America, or any other body of photographers, offer to pay for the pavilion.

So the issue now seems to be between the Fine Arts Building and the Liberal Arts Building as the locale for the display of pictorial Photography; with a probability that the latter will be insisted upon by the authorities, and that the photographers who are trying to raise their craft to an art will hold aloof.

Let us consider the precedents for and against the decision of the authorities. The Chicago World's Fair relegated photographic prints to the Liberal Arts Building, but that was ten years ago when the pictorial photograph, as we know it now, did not yet exist; the Universal Exposition of 1900 and the Pan-American both ignored the claims of

some photographic prints to be recognized as pictures, consequently all the best photographers held aloof and Photography in its highest phase was not represented. On the other, the promoters of the Glasgow Exhibition of last year showed themselves alive to the significance of the new movement, and their international exhibit of pictorial Photography in the Fine Arts Building was a notable one. This year's Exposition at Turin shows a similar recognition of the status of the pictorial print, while at the current exhibition of the Champs de Mars some photographs for the first time went before the jury and were judged on their merit as pictures. They were accepted, and are now on exhibition among the black-and-white work in the same Grand Palais from which they were excluded at the Paris Exposition two years ago. So if we leave out of account the Chicago Exposition as being itself prior to the modern movement in Photography, we find Paris (1900) and Buffalo (1901) the precedents against, Glasgow (1901), Turin (1902) and Paris (1902) the precedents for. This would seem to be an accumulation of precedent in favor of giving pictorial Photography a place in the Fine Arts Building. So that it is not pictorial Photography that is now on its defence, but the St. Louis Exposition. Will the latter really prove itself to be in the van of latest developments, or foggyish and behind the times? Do the authorities base their exclusion of pictorial Photography from the sacred enclosure of the Fine Arts Building on a comprehensive knowledge of the best results so far obtained by photographic artists? Is their exclusion grounded on the patent facts, or upon the hidebound reasoning of the theorist, which already comes near to being as inadequate to explain the facts of Photography as the Adamite theory is of those connected with the origin of man.

At any rate, even granted that their reasons for exclusion are absolutely sound and irrefutable, can they not see why their conclusions are as absolutely unacceptable to the enthusiasts, fanatics, if you will, who persist in the opposite delusion. These latter are trying to produce artistic work, and it is just as repugnant to them to have their prints co-ordinated with the displays of photographic materials as it would be to the painters to have their pictures shown in connection with commercial exhibits of brushes, canvas and pigments, of easels, lay figures, and the camera, which they use so frequently as an adjunct

to portraiture and other pictures. The Colonel's suggestion that the photographers should pocket their pride and should submit to what they feel an injustice for the sake of compelling the public to recognize their merits, must seem to them very "child-like and bland." It savors too much of an attempt to get the photographers to sacrifice their convictions so as to cover up the blunders of the Executive Committee. For it is not pride that makes them hold out, but principle. "If we yield up the latter," they very reasonably say, "we postpone indefinitely the time when people will regard pictorial Photography seriously. Indeed, Colonel, what you so courteously offer us is an opportunity of *hiri-kiri*; you would have us cut our throats to prove the reasonableness of our logic."

If the authorities persist in their determination, we do not see how the pictorial photographers can consistently do anything else but refrain from exhibiting. To do otherwise would be to abandon all for which they have been contending and with no compensating benefit to their art. It does not need the help of any exposition; still less of one that would obscure the issue. It has got along very well so far in the face of ignorance

and prejudice, and is steadily winning advocates and admirers by the quiet force of its intrinsic merit. In an age like this, where self-advertising is the very breath of the average life, we can quite believe that the St. Louis authorities find it incomprehensible that any men and women should be so blind to their own interests as to refuse an opportunity of making a display, no matter how equivocal, in their great show. But they should remember that the vastness of such a show itself interferes with deliberate and penetrating study. Visitors take their impressions at a jump. If they find pictorial Photography in the Fine Arts Building, they may see that it has some pictorial merit; but if they come upon it in the *melange* of exhibits in the Liberal Arts Building, mixed up with all kinds of varieties of photographic prints, they would not have time or perhaps ability to sort the wheat from the chaff. The public needs directing.

It is a pity if the St. Louis authorities should show themselves in this matter behind the times; but the photographers can afford to wait for recognition. The delay and the discipline which it involves will only make the recognition that is bound to come more deserved and durable.



"MOS' SUPPER TAHM"

BY ELIZABETH W. NOTT, HAMMOND, LA.



GREEN WINGED TEAL

BY W. J. STREET, SAN FRANCISCO

PROGRAM OF THE NATIONAL CONVENTION

The following program has been arranged for the instruction and edification of the Photographers' Association of America, on August 5-6-7-8, at the City Convention Hall:

TUESDAY, AUGUST 5TH—10:00 A. M.

Opening of convention.

Address of welcome.

Reading of communications.

Reports of committees.

Address by Prof. A. H. Griffith, of Detroit.

Annual address by the President of the Photographers' Association of America, George M. Edmondson.

3:00 P. M.

Reading of communications.

A talk by C. H. Smith, of Rochester. Subject: "Why?" (20 minutes).

"A Practical Studio Talk." A photographer-demonstrator's views on the "little things" in the business that mean success.

Lecture by Lucius W. Hitchcock, of Buffalo. Subject: "Practical Composition of One, Two and Three Figures" (45 minutes).

Mr. Hitchcock will, in his lecture, show how one sort of line and arrangement is better than another, and then give the right principle along which to work to do original things rather than copying the good things of others.

WEDNESDAY—A. M.

Manufacturers' and dealers' day.

There will be no meeting on this day. The members will devote the time to inspecting the exhibits and purchasing goods.

THURSDAY—9:30 A. M.

Reading communications.

Report of Treasurer.

Report of Secretary.

A talk by C. M. Hayes, of Detroit. Subject: "Good Business Methods for Photographers" (20 minutes).

A general business talk that will be of value to the fraternity. Do not miss it.

A talk by Wm. J. Edmondson. Subject: "How to Make Good Groups" (30 minutes).

This talk will be illustrated by large tracings from photographs introduced in such a way as to demonstrate forcibly the practical application of each point considered.

Selection of next place of meeting.

Nomination of officers.

Election of officers.

5:00 P. M.

Address by Elbert Hubbard, of East Aurora, editor of the *Philistine* and *Little Journeys*.

Lecture by Prof. O. W. Beck, of New York. Subject: "Art Possibilities in Commercial Portrait Photography Today."

Prof. Beck will show, in a practical way, how the photographic portrait can find a new life in art. Prof. Beck's wide experience before photographic conventions has taught him the actual needs of the fraternity today, and he will not only give thorough instruction in art, but he will show how to apply it commercially.

FRIDAY—10:00 A. M.

Unfinished business.

Talk by Morris Burk Parkinson, of Boston. Subject: "The Idiosyncrasies of the Customer and a Word About Faking."

P. M.

Members of the Association will be given an excursion to Niagara Falls.

THE EXECUTIVE BOARD.



A BIT OF OLD HOLLAND
by A. S. C. FORBES
LOS ANGELES, CAL.

THE AMATEUR AND HIS TROUBLES

BY FAYETTE J. CLUTE

A LENS TALK

An amateur friend came to me the other day for advice as to the best of the newer flat field lenses. He wished to invest in one, and would then give his original 5×7 rapid rectilinear away, as it would make an excellent 4×5 lens, of good, generous focus, for a friend's 4×5 camera. It would not cut a 5×7 ; at least, not always. I got him to get an anastigmat of his dealer on suspicion, and we went out to give the two lenses a trial. Our first exposure was a street scene, and the old lens proved by far the best. The general plan of the view being concave, the buildings on each side of the street, as well as the foreground, being nearer to the camera than the center, the old lens, with its concave field, required about half the stopping down that was demanded by the flat-field lens. With the same apparent sharpness secured, the old lens required one-fourth the exposure of the anastigmat, because it did the work with a diaphragm two sizes larger. On a view of a house front, that presented a plane surface to the lens, the anastigmat had the best—much the best—of the argument. Here is where I explained to my friend why his old lens did not cut the corners of the plate on all classes of subjects. By focusing at the corners of the ground glass the corners could be made sharp, but the center was out of focus for the simple reason that the focal point of the lens for the center of the view fell further back or inside the house, when the corners were in sharp focus, owing to the concave field of the old lens. Of course, some of the cheaper grades of cameras carry lenses that will not cut the plate, but very often lenses are blamed when the fault is all in the way they are used. If your view presents a concave front to the camera, your old-style lens will give you better satisfaction and cut clear to the corners as a rule, because the field of the lens is concave also. If the subject presents a flat surface, parallel to the front of the camera, the newer anastigmats will do it justice with a much larger stop. My friend will invest in one of the latter lenses, but his old rapid rectilinear will see good service on the same camera for some time to come.

ABOUT ASKING ADVICE

As the wise tailor says, "You must fit a man's mind, not his back." This is what I try to do when called on for advice; but, from lack of information as to my correspondents' minds, I sometimes fail. One is trying to get representations of scenes and conditions that will appeal to the minds of others as did the original to his own. Another seems to possess but the one desire to exploit the capabilities of his lens, plate and paper by means of good technical work. The third simply wishes scenes—memoranda, one might say—of incidents here and there with which to entertain his friends or refresh his own recollection in years to come. I think you can understand how difficult it is to advise without knowing in just which class the inquirer is located. One from all three classes happened to send me prints last week and wanted to know where their faults lay. I explained to the first that he had used too small a stop and by so doing destroyed any semblance of atmosphere that the original view may have held. I hit it in that case, but the other two did not get what they expected. I explained to the second that the composition of his view was faulty and the reason why, as fully as I could. He wrote in reply that he did not care about the composition, but had I not noticed that the print was not as clear as it might be and that some houses in the distance looked blurred, as if they had moved a little. The third man sent several prints for criticism, and, while finding faults in most of them, I complimented him on one little pastoral that was really a gem. In reply, he told me that the one I admired was of no value because it was simply the farm and outbuildings of some one entirely unknown to him and taken from such a distance that the buildings only occupied a small part of the plate. He had only made the exposure in order to use up the last plate in his holders. The moral is: When you want advice, kindly designate the particular brand desired.

JUST AS A SUGGESTION

A year or two ago I asked one of my editorial friends how it happened that while

nearly every photographic magazine published, used in some form, either in line, half-tone or lithography, as a design for its cover a picture typical of some photographic manipulation, Photography itself was never employed in securing the original illustration. He gave it up. He said that in all his experience a suitable print had never been offered him. Had such a one been offered he would have been only too glad to have employed it, giving full credit, and, if good, paying for the use of it. Now, here is a chance for some amateur to show what can be done. Hundreds of subjects, from the making of the exposure to the mounting of the print, are available. The reward in glory, aside from any cash consideration, ought to act as an incentive to the best work. Even should one fail to have it accepted as a cover illustration, it would be creditable if at all successful.

PRINT IN THE SHADE

Now that the light Old Sol is dispensing is so much stronger than it was a month or so ago, I would like to caution my readers against printing in the direct sunlight. Over in England they do much better. Only the strongest negatives are printed in the sun. Try the simple experiment of printing one of your weak, thin negatives in the shade or under a thickness of tissue paper or ground glass, and then again in bright sunlight. The difference will astonish those who have never compared results in this way. The same rule applies to your developing paper and your enlargements. Move the frame away or interpose tissue paper until a longer exposure is required and you will secure better results from your weak negatives. Slow printing is deep printing, and deep printing means the getting of the full value from the emulsion, which the paper maker loads none too generously with silver.

REFLECTED LIGHT IN THE CAMERA

Your lens covers a circle whose diameter is larger than the diagonal of your plate. You all know this, of course, but did you ever stop to think that this excess of light falls on the top, bottom and sides of your camera interior? Often this excess is from the most highly illuminated part of your view, as from the sky or the sunlit water in the foreground. Should that portion of the camera interior be other than a good dead black, the light is reflected from point to point within the camera, and causes trouble. The result is blamed

to over-exposure or something else and the real cause never suspected. A good dead black can be easily prepared by mixing common gold sizing with lampblack and diluting it with turpentine. Use only enough of the size to bind the mixture, as too much will result in a gloss when the coating dries.

HINTS FROM MY READERS

Perhaps some of my readers have noticed that here and there among these notes I contribute every month is one that is credited to one of my correspondents. Occasionally, in the course of a long letter, one of my older correspondents lets drop a hint as to some method of working that he has found advantageous or interesting. These hints, coming as they do invariably from my older correspondents, convince me that it is not a lack of just such valuable information that keeps the more recent readers from writing me in the same strain. It is, instead, but that want of a feeling of fellowship that is the most regrettable part of this work I am doing. Let two amateurs become acquainted through any chance, and they at once exchange experiences and methods. I am trying to do my share in making these monthly talks of value, and I hope a few more of my readers will do the same. This department is in charge of an ordinary, every-day amateur like yourselves. He has been writing this kind of matter, during spare moments between his regular employment and the time spent with his camera and ruby lamp, for a good many months. You can at least furnish an occasional photographic hint that will prove of value to some one. All letters will be answered and every effort made to make you feel at home. I have no desire to do all the talking myself.

BLISTERS ON BROMIDE PRINTS

A correspondent in Ohio writes me that he is troubled with blisters on nearly all of his bromide enlargements. If he will place the prints directly from the fixing bath into a bath of common table salt I think his difficulty will cease. A good strong solution should be used; one that tastes good and salty is near enough. Washing should be commenced after four or five minutes' immersion in the salt bath by allowing a stream of water to enter the same dish and thus gradually replace the salt bath. A weaker fixing-bath, with longer immersion therein, will also greatly tend to minimize the blister nuisance.

COMBINED DEVELOPING AND FIXING

An Australian correspondent wishes a formula for a combined developing and fixing bath. The following has given good results in my hands with fully-timed plates:

(A)

Pyrocatechin.....	1 ounce
Sulphite of soda, cryst.....	4 ounces
Caustic potash.....	1 ounce
Water.....	16 ounces

(B)

Hypo.....	4 ounces
Water.....	15 ounces

For use, take equal parts of (a) and (b) and add a like amount of water. Hydrochinon and a few other of the developers are amenable to the combined fixing and developing process, but pyrocatechin is the most satisfactory for this purpose. The image makes its appearance as usual, gains strength quite rapidly, and fixing is completed in a few minutes. More or less water added to the mixed solution will give harder or softer neg-

atives. If fixing takes place too rapidly, one has but to use less of the (b) solution.

THE FOREIGN JOURNALS

One of my correspondents wrote me a few weeks ago, asking me to recommend one of the British magazines. He wanted to know which one of them I get all these hints out of that I sprinkle through this department more or less. I really must plead "not guilty." Several of the English journals reach my table, but I rarely find time to more than glance at the illustrations. These magazines are good, all of them; but, until one finds time to read and thoughtfully digest our own publications, I think they are best avoided. I copied an item from one of them a year or so ago, and I will never do it again. Their materials and chemicals, as well as their weights and measures, differ from our own, and one is as apt to go wrong as right in trying to use information from their pages, unless well versed in these peculiarities.



EVENING

BY FRANK E. MARKS, CAMDEN, N. J.



AT THE WHARF
by G. KNIGHT WHITE
SAN FRANCISCO, CAL.

A PHOTOGRAPHIC DIGEST

BY H. D'ARCY POWER, M. D.

ON THE RENDERING OF SUNSHINE AND ATMOSPHERE

In the May *Photogram* Arthur Payne writes on the above subject, and truly says that the photographic rendering of sunshine is so unsatisfactory that a large proportion of the pictorial workers appear to have given it up and confine themselves to the making of the low-toned pictures that often give such a funereal aspect to a photographic salon. Mr. Payne seems to think that the solution of the difficulty is to be found in orthochromatic plates and ray filters. On the theory that the ordinary lack of success is due to the deficient actinism of the greens and yellows of a landscape, this would be the natural remedy; but is this the real cause of failure? The writer is of opinion that it is not. Mr. Payne gives two landscapes taken on ordinary plates and the same on orthochromatics with ray filter, and he maintains that the latter conveys an impression of sunshine absent in the former. The observer will find it hard to share this impression. The first looks like a picture taken in diffused light of little intensity. The orthochromatics have the same appearance, except that the landscape looks as though it had been well sprinkled with snow. None of them suggest sunshine—the ray filter pictures least of all. The fact is that the rendering of sunshine is in nowise a question of plates, ray filters or development, but of careful selection and lighting.

Compare a painter's presentation of a sunlit subject and a photograph of the same or a similar scene. The painting will show broad masses of luminous shadow, sharply contrasted with masses of high-light. In the photograph the high-lights may be all right, but the shadows are usually broken up with scattered lights, and are often devoid of detail. This is due to the fact that the curved surfaces of leaves, etc., act as so many mirrors, catching the strong light and presenting it to the photographic plate in concentrated spots, which, accentuated by halation, hopelessly destroys the breadth of effect that a shadow should possess. This, undoubtedly, is the great cause of failure in sunlit pictures, and is quite unaffected by ray filters and orthochro-

matic plates. These may give increase of detail in high-lights and shadows (an effect which Mr. Payne's pictures show), but can in nowise diminish the force of these scattered lights.

The way to overcome this difficulty is to select a time when the direction of the shadows of leaves and branches is mutually protective—usually early or late in the day. Choose, by preference, weak rather than strong sunshine, or, what is often best of all, the light that comes from a strongly illuminated cloud, always provided it is sufficiently intense to produce shadows. Shadows are all-important in giving the effect of sunshine; in fact, a picture devoid of shadows cannot give a sunlight effect, however true its key may be. This is the reason that Mr. Payne's picture, already referred to, entirely fails in its intended effect. In open landscape the shadow may be that of a single tree in the foreground or of clouds upon the ground, but a shadow there must be. In the case of sunlight in woods, it is often a matter of impossibility to avoid scattered high-lights. In such a case the best plan is to make a solio print or a transparency, carefully spot out or lower the tone of all the offending lights, and make therefrom a new negative in the copying camera. This entails trouble, but he who seeks the best results must be prepared to work hard for them. With study, patience and work, sunlight effects are as possible in Photography as in other methods of monochrome—and they are greatly needed at the present time.

SUNNING DOWN PRINTS

Those who are in the habit of sunning down skies or removing objectionable high-lights by local over-printing will be thankful for a most useful hint given by the *English Amateur Photographer*. The usual way to effect local over-printing is to concentrate the sun's rays on the part by means of a hand-magnifier. This is always unsatisfactory, because the shadow of the glass falls on the print and interferes with regular printing of the other parts. The hint in question is to throw the light onto the surface by a mirror instead of a lens, the printing frame being

in the shade. If a broad band of light is required, use a flat mirror; if a spot of light, a concave mirror, such as a lamp reflector. Trial has confirmed the value of this method.

DEVELOPMENT IN HOT WEATHER

In a prize essay, communicated to the *Photogram*, Dr. Hauberrisser has recently advocated the use of alcohol as an addition to the developer for the purpose of preventing frilling and other hot-weather defects. He states that alcohol may be mixed in various proportions with all developers, but that the best results are obtained with amidol, and recommends the following formula:

Amidol.....	8	grs.,	0.5 grams
Soda sulphite, cryst..	.80	grs.,	5.0 grams
Water.....	3½	ozs.,	100.0 C. C.
Alcohol.....	3½	ozs.,	100.0 C. C.

Dissolve the first two in water and add the alcohol a little at a time. Dr. Hauberrisser claims many good things for this developer. It is three or four times slower than normal amidol, on account of the tanning action of the alcohol on the gelatine film. Consequently the details in the shadows (which are on the surface of the film) have time to gather strength before the high-lights block up. This is of especial advantage both in under-exposed plates and where halation is likely to be present. The blurring effect of the latter being largely confined to the deepest layer of the film, next the glass, which, owing to the adequate growth of density in the superficial layers, may not require to be developed at all. The developer keeps well, and may be used at as high a temperature as 105 degrees. Our friends in Sacramento and Fresno ought to hail this announcement with delight.

GOLD TONING

Last month I gave a symposium of the rules laid down by two eminent workers. Since then I have come upon the following seven rules, given by M. Mercier in the *Photo-Gazette*, which the student will find most valuable:

First—With a given alkalinity, the bath decolorizes more rapidly with organic than mineral salts.

Second—The bath ripens quickly proportionately to the quantity of the salt used, whatever it be.

Third—Violet-black tones can be obtained from all neutral or alkaline baths if used soon after their preparation.

Fourth—Baths deteriorate quickly in proportion to the alkali used at the time of their preparation.

Fifth—Toning baths made up with mineral salts that only slowly turn the paper blue do not discolor.

Sixth—Baths that work slowly indefinitely preserve their toning power.

Seventh—The tone always depends on the amount of gold deposited.

THE WASHING OF PLATES AND PRINTS

We have, from time to time, referred to the above subject from the point of view of exact experiment. Recently Messrs. Lumiere and Leyewitz have published a series of observations, the results of which are published in the *English Amateur Photographer*, and are of much practical importance. From these, it would appear that in washing a print all the water that can be usefully employed is a quantity sufficient to cover it, and that after five minutes longer soaking fails to remove more hypo. To apply this practically, it may be said that, given a 5x7 print, eight soakings of five minutes' duration in three and one-half ounces of water is sufficient to remove all the hypo, and that the two first washings remove ninety per cent of it. If such a print were placed in running water from a tap discharging seven quarts a minute, there would be still as much hypo left in the print after twenty-five minutes' washing as after five soakings of five minutes each; that is to say, 18 ounces of water is just as effective as 12,700 ounces. Curiously, however long the washing is continued, traces of hypo remain in the film and can be removed by pressure. The final conclusion is, therefore, that the most effective method of removing hypo is to soak for periods of five minutes and press the prints between each change of water.

"Electric Lighted; or, Dollar for Dollar," is the subject of a handsome blue booklet just issued by the Southern Pacific Company. It describes, in entertaining style, the ten magnificent electric-lighted trains just put into the overland limited service, and can be had at any of the agents of the company.

The Hammer Dry Plate Company, of St. Louis, inform us that all dealers have now been supplied with copies of the new edition of their "Little Book on Negative Making," a copy of which can be had by any one who desires it. This little book contains much of interest to every photographer, and has long been regarded with favor by photographers the world over.

"Premo Supreme" is the title of a richly printed and illustrated pamphlet now being distributed by the Rochester Optical and Camera Company, of Rochester. The subject matter is well arranged and the description of "Supreme" is so well written that the reader is immediately possessed of a desire to inspect this perfect specimen of the camera-maker's art. A copy of the pamphlet will be sent upon request.

QUARTZ LENSES

Our readers may remember the interest created by Mr. W. A. Thewstone's experiments in the building up of quartz by means of the oxyhydrogen flame into tubes which possessed many remarkable properties, as compared with glass, the most striking being their power of resisting extreme and sudden changes of temperature without cracking. A further development of the idea has been carried out by Mr. R. S. Hutton, M. Sc., who brought before the Manchester Literary and Philosophical Society, early this year, the results of his experiments, which were carried out in the physical laboratory of Owens College.

Hitherto the oxyhydrogen blow-pipe has been the chief means adopted for the softening of the quartz, but Mr. Hutton, with Mr. Morrison's experiments with the electric arc on quartz in view, was led to use electrical instead of gaseous heating, the former being capable of not only melting, but volatilizing, silica, quartz being, as we need scarcely state, a form of silica, or oxide of silicon. Mr. Hutton found that the danger of reducing the silica, solid or liquid, to silicon was easily obviated by allowing a small current of air to pass through the electric furnace while the quartz was being subjected to the current. At the 1900 Paris exhibition Messrs. Zeiss exhibited small lenses of "crystal de roche fondu," but gave no description of the process by which they were produced. Mr. Hutton has fully described his methods, and his paper states that with a little practice it is hoped that masses suitable for lenses can be made. His plan for making tubes is to bring into the arc flame small pieces of quartz, placed in a groove in a piece of carbon of as pure a quality as possible, while for making lens-shaped discs he employed a small carbon crucible.

If it turns out to be feasible to make quartz lenses in this way, it is possible that their valuable optical properties may be util-

ized considerably for photographic lenses, as the preliminary molding into shape would materially reduce the cost of the grinding, which, in the case of so hard a material as quartz, must be greatly in excess of that for glass grinding. Of course, there is the possibility of unequal refraction in the various parts of the mass which would be fatal to lens work; but there is sufficient promise to cause further experiments to be anticipated with interest.—*British Journal of Photography*.

PHOTOGRAPHIC BOOK PLATES

To any lover of books the following hints for making photographic book plates will, doubtless, have some interest. The idea is first to design, on a large sheet of drawing-paper, a suitable surrounding border for the particular photograph that is going to be used. This border may be as fanciful or severe as the designer thinks fit and should allow spaces for lettering, *i. e.*, the *ex libris*, and the name of the possessor of the book, these being inscribed preferably in, say, old English characters. As regards the photograph used, it may be suggested that it should be of a subject which would seem to have some special interest to a book-lover.

Anything in the way of a person studying a book, putting it on the shelf, etc., would be very suitable. Having then pasted the photograph on the drawing-paper in its proper position, and seeing that everything is as correct as possible, it only remains to mount the drawing-paper on a thick sheet of cardboard, and photograph the whole, reducing it to a size small enough to be inserted into the volumes into which it is intended for the book plates to go. Having now got the negative, it will be well to take a goodly number of prints off it, so that they may be kept ready at hand for any new books that may be added to one's library. The best printing process is, undoubtedly, platinotype, as this gives permanent as well as highly pleasing results.—*English Amateur Photographer*.

GUM OZOTYPE

WILLIAM R. BISS, IN THE AMATEUR PHOTOGRAPHER

No doubt a great many readers of *The Amateur Photographer* were interested in the beautiful process which Mr. R. Manly originated and published in this paper a short time ago, and several have, no doubt, experimented with it with varying success, and as a number of prints made by this process were much admired when shown by me at the camera club I thought that a full account of

my working method and formulæ would be acceptable to many artistic workers, who prefer to control their results to a great extent. Without wasting further time I will proceed to take each part of the process separately. We first come to the

PAPER.

Almost all good papers are suitable, but smooth cartridge, known as Old Turkey Mill, and made by Hollingsworth, is especially so. This is obtainable from Reeves & Sons, or Waterlow's; the smooth varieties by Whatman are also suitable, but, of course, are much more expensive. Michallet paper gives fine broad effects, but requires an extra amount of size with the sensitizing solution.

Smooth papers are recommended, as, during development, the surface is considerably roughened. In fact, nearly all the writing papers are suitable, with the exception of cream laid note, which has a large amount of dressing rolled into the surface; this acts detrimentally on the sensitizing solution.

When using writing papers it is best to print and wash as soon as possible after sensitizing, in order to avoid any contamination of the image.

SENSITIZING.

The solution for this is obtained from the Ozotype Company, Weedington Road, Kentish Town, and is patented.

Readers of this article are advised to read "Lessons in Ozotype" in which will be found minute directions for easily coating the paper selected. A few remarks, however, will not be out of place. Instead of using fish-glue as a size, recommended by Mr. Manly, I find it better for this process to use a gum arabic solution, made by dissolving one ounce of best picked gum arabic in three ounces of water, then straining and adding two or three drops of liquified carbolic acid (B. P. strength), obtainable from any chemist. The addition of the acid preserves the gum indefinitely, and is found not to be injurious whatever.

To every sheet of Imperial size of smooth paper, measuring thirty inches by twenty-two inches, I use three drams of Ozotype sensitizing solution, and mix with it, just before coating the paper, twenty minims of the above gum solution; if using rough papers about double the quantity of gum would be required. I find it an advantage for certain soft effects, and especially when using negatives with great contrasts, to dilute

the sensitizing solution just before using with water, thus:

Ozotype sensitizing solution....	2½ drams
Water.....	½ dram
Gum arabic solution.....	20 minims

The quantity of water used can be varied more or less, but the mixed solution should always measure three drams (with the size extra), as this quantity of liquid is necessary to properly coat the thirty-inch by twenty-two-inch piece of paper.

Brushes for coating are supplied by the Ozotype Company, and can be recommended, varnish brushes being useless, as the hair soon comes out through the action of the water on the cement used, the company's brushes being free from this defect.

The paper, when coated, will keep without special precautions from ten to fourteen days, perhaps longer; but it is best to use it as soon as possible, as more certain results are secured. As soon as the paper is dry it is ready for

PRINTING.

After using all types of negatives, I find that a negative which will give a good print on P. O. P. is most suitable; a negative which will give a good print in platinotype will also do, especially if the sensitizing solution is diluted, as suggested above.

Do not print too deeply; as soon as the detail is visible in the high-lights it has gone far enough, and should be removed from the frame and stored in an old negative box until the batch of prints required are printed.

The prints should be washed as soon as possible, as the action of light continues, even if kept in the dark. If kept, say, not longer than twelve hours, no great alteration will take place. The prints at this stage should be washed for about ten to fifteen minutes in running water, turning them over from time to time, to ensure a thorough elimination of the sensitive salts. Be careful to wash thoroughly, otherwise failure in the after work is certain; but too long washing weakens the image.

When sufficiently washed, hang up to dry, or they can be first blotted on a clean cloth, and then pinned up to dry, which will take considerably less time than if not blotted. When *bone* dry they are ready for

PIGMENTING.

Make up the following solutions:

No. 1.

Water.....	5 ounces
Sulphate of copper (pure).....	1 ounce

No. 2.

Water	5 ounces
Chrome alum	½ ounce

These solutions will keep indefinitely.

No. 3. (GUM SOLUTION)

Gum arabic (best picked)	2 ounces
Water	6 ounces

When dissolved, strain through muslin, and to each ounce of the solution add—

Solution No. 1	75 minims
Solution No. 2	20 minims

These proportions I have found to be the best for practical work. Some workers may find this solution too thick, but I have not found it so; if preferred, another one ounce of water, together with the additional requisite proportions of Nos. 1 and 2, may be added. This solution will keep for some considerable time.

I have found that if the gum solution is used much thinner than stated above, the pigment sinks into the pores of the paper, unless the paper is strongly sized, and strongly sized paper is objectionable, from the fact that it gives hard effects.

Should a pigment surface, capable of withstanding a considerable amount of brush work in developing, be required, use forty to fifty minims of No. 2 solution to the ounce of gum solution, instead of the twenty minims, as directed.

No. 4 (ACETIC SOLUTION)

Water	1 ounce
Acetic acid, glacial	30 minims
Hydroquinone	15 grains
Ferrous sulphate	2 to 3 grains (not more)

Mix in the order given. This solution will keep for a few days, but is better used freshly mixed.

PIGMENTS.

After much experiment, I have come to the conclusion that the ordinary powdered pigments sold by good colormen are quite good enough for this process; they can be bought at about ten cents an ounce. The colors sold by Palmer & Co., Old Street, E. C., can be recommended. Nearly all colors are suitable, with the exception of burnt umber, which, for some reason, will not work properly, the pigment not adhering to the image.

The colors I have used are Vandyke brown, raw sienna, burnt sienna, indigo and lamp-black, which, by admixture, will produce almost any color, from pale brown to pure black. No doubt other colors will work equally well, but I have not experimented with any than the above.

Having prepared several prints for pig-

menting, take a sufficient quantity of the color desired and mix it with a palette knife (an ordinary table knife will do) on a sheet of glass, with a few drops of the gum solution used for sizing the paper, and rub down until thoroughly mixed and smooth, then transfer same to a saucer, and thin down to the required condition with the following:

Gum solution, No. 3	1 ounce
Acetic solution, No. 4	50 minims

Mix well.

This gum and pigment mixture has now to be smeared evenly all over the dry print, which should be pinned down for the purpose to a flat surface with drawing pins, and a sufficiency of the gum and pigment taken up in a brush (a one-and-a-quarter-inch flat hog's-hair varnish brush answers the purpose very well), and then smeared all over the print, crossing and recrossing with the brush until a fairly even coating is secured. Although an even coating is advisable, it is not absolutely necessary in this process, as it would be in the case of gum-bichromate. Just at first it is rather difficult to judge the depth of the gum and pigment coating required; but the surface of the paper ought to be just visible through the coating of pigment. After pigmenting, hang up to dry, which will take from twenty minutes to half an hour, according to the thickness of the coating.

When thoroughly dry, the development can be proceeded with. It is best to develop the pigmented prints within twelve hours after coating, as after that time the gum becomes brittle, and may leave the image in patches; this can, to a certain extent, be prevented by adding about ten drops of glycerine to the ounce of gum and pigment mixture; the print can then be kept for probably two or three days before development.

For development a separate dish is required for each print. Fill a dish with cold water, to the depth of about two inches, and lay the print face down on the surface of the water; leave for half an hour, and then try if the coating will dissolve by placing print face uppermost on a sheet of glass, and pouring water gently over the surface. If the print shows very little signs of developing, pour sufficient boiling water into the dish to just warm the developing water, and return the print to the dish and put on one side for ten to fifteen minutes. After that time, try again by pouring the water from the dish over the surface of the print. If still slow in developing, again add more boiling water to the dish

and proceed as before. The image will then perhaps commence to develop. This is the time to alter any part of the print, to suit the taste or judgment of the operator, either by very light touches with a camel-hair brush, or by squeezing water at different temperatures from a sponge over the surface, a method often used in developing a gum-bichromate print.

When fully developed, the print should be hung up to dry; when dry, should it not be sufficiently developed to suit the taste of the worker, it can be further developed, first by soaking in cold and then warm water, and proceeding exactly as before.

It is a good plan, if, on developing a print,

the image is found to be very soluble, to remove it from the developing water and hang up to dry; this has the effect of making the gum less soluble, and a better scale of gradation is secured. When judged to be sufficiently developed it is advisable to soak the print for ten minutes in

Alum.....	1½ ounces
Water.....	40 ounces

and then rinse in clean water, and finally hang up to dry; when dry it can be trimmed and mounted, to suit the fancy of the operator. This process, although taking a long time to describe, is not really difficult at all, and any painstaking amateur ought to be able to produce passable prints after a few trials.

NOTES AND COMMENT

PRACTICAL COLOR PHOTOGRAPHY

The series of notes on plates and light "filters" for orthochromatic and tricolor Photography, by Professor Miethe, which ran through several recent issues, is postponed for a while, as announced in our May issue. Meanwhile, in response to requests for some further practical details, Dr. Miethe writes as follows:

"The relative of exposures required through filters made with my formulæ are 1:2:2½, for the blue, green and red; but, as I have previously mentioned, the best plan is to give the exposure for each filter and to cut down the blue and green by the use of a smaller stop. As a guide to exposure when using the Perchromo plates, an open landscape in a good light should require from eight to ten seconds through the blue filter; portraits at $f/4.5$ require about one second for blue; "still-life" studies and "woodland scenes" require, of course, longer. For development, rodinal, 1 in 30 or 40, serves very well, or the new "Bayer" developer, edinol, likewise diluted. As the Perchromo plate is extremely sensitive to red light, the illumination of the dark-room should be as dim as possible during the first time of development, and, of course, the filter should be of the right kind, which is made as follows:

(1)

Brilliant yellow.....	10 grains
Water	300 c. cs.

(2)

Methyl violet.....	2 grains
Water	200 c. cs.

"Two plates are immersed, one in No. 1 of the baths and the other in No. 2. After a slight rinsing, the two are dried, bound film to film and fixed in position. A filter of this kind allows no injurious light to pass; but, after a minute or so, the plate can be freely exposed to the darkroom light without fear, as its color sensitiveness falls off greatly. A soft negative is a necessity in tricolor work. In landscape subjects one must not be deceived by the vigorous appearance of the blue plate; develop until sufficient strength duly appears in the red negative. The blue exposure will then appear under-exposed. After thoroughly fixing and washing, the negative is dried. Intensification or reduction should be avoided, as the results are never so good as that of an untreated negative. The making of similarly soft transparencies should present no difficulty, and when these are examined in the chromoscope it is easy to tell in what way an error has been made and to make the correction in future exposures. The following list of defects, their causes and remedies, should be carefully studied:

"The whole picture appears too blue — over-exposure of the blue negative.

"The whole picture appears too red — over-exposure of the red negative.

"The whole picture appears too green — over-exposure of the green negative.

"The whole picture appears too violet — under-exposure of the green negative.

"The whole picture appears too yellow — under-exposure of the blue negative.

"The high-lights appear absolutely or almost white — the negative was too dense or the transparency was exposed insufficiently or too vigorously developed.

"The colors appear saddened — negatives or transparencies too thin.

"The shadows appear black and heavy — under-exposure of the negatives or over-development of the transparencies.

"The separate pictures do not coincide — movement of the object while taking the three negatives.

"The three component pictures are different in size — the extension of the camera was altered during the three exposures.

"The picture is not properly sharp in all parts — too large a stop or the object too near.

"The high-lights appear reddish when other colors are about right — over-exposure of all three negatives and too short development.

"The colors in the high-lights about right, but the shadows appear blue — under-exposure of all three negatives.

"The beginner in tricolor work should always remember that the correct relative exposure through the three filters is even more important than the correct absolute time."

THE NEXT NORTHWESTERN CONVENTION

The Photographers' Association of the Pacific Northwest has decided to hold the annual convention one month earlier this year than last, the dates being September 17th, 18th, 19th and 20th. The policy adopted by the official board of this association is very much in line with the National and other State associations regarding the prize question. There will be no prizes given any member of the association this year. The only prizes are offered to what is termed the foreign exhibit.

First and second prizes of gold and silver medals are offered for best pictures exhibited by foreign exhibitors; one picture, any size, being sufficient to enter this contest. It is hoped by this means to secure the best pictures from the leading exhibits in the National or other Eastern conventions. Those members of the association who exhibit the best pictures at the convention will have the honor of having at least

one of their pictures selected by a committee to help form an exhibit to be sent to the National convention the following year as an exhibit from the Photographers' Association of the Pacific Northwest. We promise great things in an educational way to all who attend the convention at Tacoma, Wash., in September next.

A NEW BUSINESS

We are in receipt of the following card, which should prove of interest:

Mr. W. I. Scandlin announces that on May 15th he will sever his long and pleasant connection with *Anthony's Photographic Bulletin* and its publishers, and will assume the management of the Business Development Bureau, 345 Sixth Avenue, Brooklyn, devoting his attention to the preparation of special booklets and original advertising, including a "follow-up" system that is bound to build business.

Mr. Scandlin believes that there is a present need for live advertising in the photographic field, and his efforts will be devoted mainly to its development. Correspondence is solicited from all who are interested in materially increasing their business during the coming year.

NEW OFFICERS OF THE LOS ANGELES CAMERA CLUB

The annual election of officers of the Los Angeles Camera Club occurred in the club-rooms Friday, May 9th, and the following-named members were elected to serve for the coming year: President, C. O. Valentine; vice-president, G. G. Johnson; recording secretary, L. W. Harmon; treasurer, Mrs. P. E. Woten; corresponding secretary, Miss H. L. Davie. The new board of directors is comprised of Dr. C. J. Beers, E. J. Porteous, P. K. Wood, W. M. Frisbie, O. Granicher, E. J. Killian.

SENSITIZED COLLODION EMULSION

We are in receipt of the following letter from Mr. G. Gennert, of New York:

It will undoubtedly be of interest to your readers, and for this reason we would request you to make mention of the fact, that we are about to place upon the market a sensitized collodion emulsion for the three-color process and general half-tone and line work.

Up to the present time negatives for these processes have mostly been made on ordinary wet plates, silvered in the silver bath. The resulting wet plate is of very low sensitiveness and is not orthochromatic.

The new emulsion which we propose to place upon the market, and full particulars of which we can furnish you for your next issue, will do away entirely with the silver bath. The emulsion will be six times as fast

as the ordinary wet plate and it will be orthochromatic.

It is the most important departure in photo-mechanical work that has appeared for years, for it will enable the operator to work much quicker, to avoid entirely the use of the silver bath, to work with more certainty and, above all, to obtain proper color values in reproducing paintings, water colors, pastels or colored pictures.

Edited by Mr. John Russell Young's widow, May D. Russell Young, "Men and Memories" stands unique among spring books for its charming style and teeming historical and literary interest, as well as its typographical beauty. Some of the leading newspapers and periodicals call it "the book of the year"; the most eminent men in the country have tendered their congratulations to Mrs. Young, as well as to her publishers. The book has aroused much interest in Europe. [Two volumes, \$5. F. Tennyson Neely, New York and London.]

The Voigtlaender & Son Optical Company tell us that while there is a remarkably large demand for the Collinear lens for hand cameras of all kinds and also for outdoor professional view work, the number of professional photographers who are buying the Series II Collinears, from No. 7 up, for portraiture, mainly groups in the studio, is surprisingly large and increasing daily. It is, no doubt, due to the speed of the lens. This, it will be remembered, will easily work with full opening under the light, while portrait lenses all have to be stopped down.

The Voigtlaender & Son Optical Company are preparing a new catalogue, which will contain a new series of lenses for photo-mechanical work, and are also publishing a number of interesting pamphlets telling the advantages of their lens.

The Guerin College of Photography, St. Louis, Mo., is offering special inducements to professionals for a short course of instruction during the months of July and August, and anticipates quite a large class of photographers. Any one interested can receive particulars by addressing them.

The California Camera Club will enjoy another outing to the Yosemite this summer, leaving San Francisco June 7th and returning on the 22d. Several days will be spent in Wawona and a ten days' stay will be made in the valley. About twenty-five members of the club will participate.

The catalog of the Gundlach Optical Com-

pany has just been issued, and it maintains the standard of former years. The principal new features of Korona cameras for 1902, as described therein, is the method of adjusting the swingback, the addition of an auxiliary bed for the use of lenses of short focus and a new automatic shutter.

The exhibition of Mr. W. E. Dassonville, under the auspices of Messrs. Paul Elder and Morgan Sheppard, May 22d to June 9th, attracted much attention from picture-lovers. The exhibition was composed principally of portraits of children and a number of Dutch landscapes, made during Mr. Dassonville's recent trip to Europe.

The outing of the California Camera Club to Monterey on May 24th and 25th was enjoyed by about fifty club members. With the exception of a rather unfortunate occurrence on the bay, the outing was a complete success.

Messrs. Z. T. Briggs & Co., of 413 Commercial street, Atchison, Kansas, have favored us with a copy of their new 150-page catalogue. It is complete in every particular and should be in the possession of every photographer in the territory reached by this well-known firm.

Mr. Arthur B. Tebbetts, representing the Photo Jewelry Manufacturing Company of Chicago, has just left the Pacific Coast for the East.

We wish to call the attention of our readers to the advertisement of the Joe Di Nunzio Company, makers of Angelo platinum paper, in this issue. Some of the largest consumers of platinum paper in the West are patrons of the firm, the reputation of which has preceded the advertising of their wares in the West.

The Bausch & Lomb Optical Company, of Rochester, N. Y., has just issued a dainty catalog devoted to shutters, in which Volute comes in for a freely illustrated description, with reproductions from some astonishingly good athletic pictures. A copy can be had for the asking.

The May number of the Los Angeles *Camera Club News* is devoted to the recent exhibition, and is a very creditable issue.

The Voigtlaender & Son Optical Company, New York, has just published a booklet on "The Collinear Lens" that should be read by every one contemplating the purchase of new lenses.

WANTS

Free to those seeking employment.
Three lines, one insertion, 50c. Three insertions \$1.00.

For Sale—One No. 8 5 x 7 Zeiss Convertible Lens, Bausch & Lomb diaphragm shutter. H. M. R., 2 Belcher Court, S. F.

Sacramento photograph gallery cheap for cash. Doing good business. Sale on account of sickness. Kirk, Geary & Co., Sacramento, Cal.

Stolen—A series III., No. 4 Goerz lens, No. 72,301. If same is offered for sale kindly communicate with Reflex Camera Company, Yonkers, N. Y.

Expert lady retoucher would like the work of a few more galleries outside the city. Address Mrs. E. T. Bennett, 515½ Bush Street, San Francisco, Cal.

I have a 5 x 8 Blair Roll Holder; will sell for \$2.00 cash, or what you have to trade. Old postage stamps will do. H. W. Boers, 322 Erskine Street, Detroit.

For Sale—Have two studios, must sell one of them. A bargain for someone. For particulars address L. B., care Wash. Dental Sup. Co., P. O. Box 800, Seattle, Wash.

I will pay cash or give liberal exchange for interesting unmounted photographs, any size, either amateur or professional. Wilfred C. Tilton, Prairie Depot, Ohio. May 03.

Wanted—Position as retoucher and reception-room attendant. Have had a number of years' experience and am willing to work hard for the interests of the establishment. Address Mrs. L., care of CAMERA CRAFT.

For Sale—Finest studio in Northwest Washington. Ground floor. Single slant-light. Brick building. First-class trade, highest prices and up-to-date studio. Price, \$1800. For particulars address L., care of CAMERA CRAFT.

Boy Wanted—We offer \$100 in cash for the best outdoor picture of a boy using or carrying a No. 2 Brownie Camera. Competing pictures may be made with any camera, but must not be less than 5 x 7 inches, and must be printed on Solio, Kloro, Albuma or Rex paper, and mounted. The prize will be awarded to the person submitting the picture which is most valuable to us for advertising purposes. This contest is open to every one except our own employees. Advertising Department Eastman Kodak Co., Rochester, N. Y.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

114 GEARY STREET SAN FRANCISCO

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NOTE:—Subscribers who do not receive CAMERA CRAFT promptly will confer a favor by sending a postal card to this office. The omission will be supplied and an investigation made. The editors will, at all times, be ready to carefully consider manuscript and photographs. When possible, all manuscript should be typewritten.

All photo supply dealers and news dealers are authorized to receipt for subscriptions in our name. Price per year \$1.50; Foreign \$2.00. Back numbers can be obtained direct from the publishers at 15 cents each.

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ROCHESTER, N. Y.

RAPID RECTILINEAR LENSES.

There is a wide variation in the quality of the so-called "Rapid Rectilinear" lenses. There is, as well, a wide variety in the names applied by camera manufacturers to double combinations which are more or less rapid and more or less rectilinear. We have never given our lenses any fancy names, but we have given a great amount of attention to the matter of selection.

They are rapid, they are rectilinear, and we believe are better in quality than any lenses with which any other cameras are regularly equipped. We do not claim for a lens which we include in the price of a \$20.00 or \$25.00 Kodak or plate camera, the high speed that can be had in a \$40.00 or \$50.00 anastigmat. But we do claim that they make good, sharp pictures at *f. 8*, which is speed enough for almost any occasion. We do claim that every one is given a most thorough and painstaking photographic test—and we fully believe that stop for stop, from *f. 8* down, there are no better lenses made.

NEW YORK, March 5th, 1902.
EASTMAN KODAK Co., Rochester, N. Y.

Enclosed find a print taken with your Plate Camera No. 4 C on an Eastman Plate,

without sunlight; used full opening and rooth part of a second. I must confess that I have tried to make the same exposure with —* and —* lenses and the result was not as good as this. Should you wish to use this as advertising with your Plate Cameras, then I will send you the plate. I am sure that you will be able to make better prints than I make. I have sold six cameras on account of this print.

Yours respectfully,

(signed) L. LEWIS.

*High priced imported lenses. E. K. Co.

We are frequently in receipt of letters from our customers comment-

ing favorably upon the quality of work which our lenses accomplish but have none, perhaps, giving a stronger endorsement than that of Mr. Lewis. The lenses referred to by him as used in our plate cameras are identical with those used in the Cartridge Kodaks, the Bullet and Bulls-Eye Specials and

in the No. 3 Folding Pocket Kodaks when equipped with the B. & L. Automatic shutter.

In our work of broadening the field of usefulness of the film cartridge we have not overlooked the matter of quality in our lenses. To this fact the Kodak success in largely due.

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CONTENTS, JULY, 1902

GENERAL WILLIAM TECUMSEH SHERMAN, 1853— <i>William Shew</i>	Frontispiece
A PORTRAIT PHOTOGRAPHER IN SAN FRANCISCO FOR MORE THAN FIFTY YEARS— <i>O. V. Lange</i>	101
CELEBRITIES BEFORE THE CAMERA— <i>Horatio F. Stoll</i>	108
WHERE INDUSTRIAL PHOTOGRAPHY WILL FIND A HOME AT THE WORLD'S FAIR	113
WHAT BECOMES OF THE AMATEUR PHOTOGRAPHER?— <i>W. I. Scandlin</i>	118
OUTING OF THE CALIFORNIA CAMERA CLUB— <i>Dr. G. G. Burnett</i>	121
Illustrated by Chas. Wiedner	
EDITORIAL	125
THE AMATEUR AND HIS TROUBLES— <i>Fayette J. Clute</i>	126
A PHOTOGRAPHIC DIGEST— <i>H. D'Arcy Power, M. D.</i>	127



GENERAL WILLIAM TECUMSEH SHERMAN
by WILLIAM SHEW, 1853

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. V.

SAN FRANCISCO, CALIFORNIA, JULY, 1902

No. 3

A PORTRAIT PHOTOGRAPHER FOR MORE THAN HALF A CENTURY IN SAN FRANCISCO

By O. V. LANGE

It is seldom that in this age of unrest and rapid change in the affairs of man that we hear of one who has devoted sixty-two years of his life to one profession, and that profession one the beginning of which is within the memory of the present generation. Such, however, is the story of the life of William Shew who came to San Francisco by the way of the Isthmus of Panama in 1850, bringing with him a small photographic gallery mounted on wheels. Having known Mr. Shew ever since my boyhood, I thought a sketch of his life and some illustrations of the and ambrotype days to the great army amateur photoregime. Although have passed over have noticed hardly very beard, dark voice of the old his interest in the just as keen as reached the Golden tures of its men and

Mr. Shew was Watertown, in Jef- His life career upon after reading in the *New York* a brother of Profes-



WILLIAM SHEW AT 21 (FROM A DAGUERRETYPE)

inventor of the telegraph. This paragraph gave a short account of an invention, a new way of drawing pictures with the aid of sunshine through an optical instrument, which was given to the world by Daguerre, in 1839. In the spring of '41, Mr. Shew and his three brothers, having learned daguerreotyping from Professor Morse, made their first amateur attempts on the members of the family. They extended their field of operations to Watertown, but as "a prophet is without honor in his own country," their financial success was not brilliant. They then moved to Ogdensburg, N. Y., where they put up the first skylight gallery and drew most of their patronage from the English army officers, located at Prescott, on the Canadian side of the St. Lawrence River.

From Ogdensburg they proceeded up the St. Lawrence River to Rochester,

old daguerreotype would be of interest of professional and phers of the new eighty-two winters him, of late years I a change in the sil-eyes and kindly photographer, and affairs of today is when he first State to make pic-women.

born on a farm near ferson county, N. Y. was determined a short paragraph *Observer*, edited by sor Morse, the in-

N. Y., where they were looked upon with suspicion by the American Custom House officials who suspected them of smuggling because of their strange paraphernalia.

Even at Rochester, the present center of the photographic industry, the people did not take very kindly to the new mode of portraiture, therefore, Geneva, N. Y., was the next place where they tried for fame and fortune. The business still not paying there, they left for New York, where they formed the firm of L. P. Hayden & Co., 1 Park Place, New York. The money used to carry on these operations was partly furnished from a reserve fund earned by William Shew while teaching in the country schools.

In 1841, John Plumbe, a daguerreotypier, who had galleries in three different cities, engaged the three brothers to superintend the galleries. William Shew had charge of the Boston gallery, Trueman Shew of the Philadelphia place, and Jacob Shew (who subsequently had a gallery in San Francisco) managed the Baltimore business. After managing Plumbe & Co's business successfully for several years, each of the three brothers again started out independently.

William Shew had a large business in Boston for ten years, on Washington Street, opposite the head of Water Street, where he combined the manufacturing of daguerreotype cases and photographic materials with the picture



WILLIAM SHEW AT 41 (FROM AN AMBROTYPE)

business. Giving up his business in Boston, Mr. Shew came to California in 1850, bringing with him a complete outfit for the making of daguerreotypes. Expecting limited accommodations in the young seaport town of San Francisco, he sent in advance, around the Horn, a small gallery on wheels. One of the advantages of this portable gallery was that he could wheel it out of the way when a fire occurred in the neighborhood, which frequently happened in those early days.

His first location was on Dupont Street, near Clay, when a fire occurring in the neighborhood, he shifted his headquarters to Portsmouth Square.



WILLIAM SHEW AT 81 (FROM A PHOTOGRAPH)



KATE BATEMAN, ACTRESS

THIS PICTURE WAS MADE IN 1852 WHEN THE BATEMAN SISTERS WERE FAMED THROUGHOUT THE WEST, THEIR POPULARITY WITH THE MINERS ALMOST AMOUNTING TO IDOLATRY. MANY STORIES ARE TOLD OF ENCOUNTERS BETWEEN RIVAL ADMIRERS OF THE SISTERS, WHO FOR MANY MONTHS WERE THE STAR ATTRACTIONS AT THE OLD JENNY LIND THEATRE. ON ONE OCCASION THE FATHER OF THE ACTRESSES AND FRANK SOULE, EDITOR OF THE "ALTA" AND AUTHOR OF "ANNALS OF SAN FRANCISCO," FOUGHT A PITCHED BATTLE ON THE STREET. THE EDITOR ALLEGED THAT A PLAY WRITTEN BY THE ACTOR'S WIFE AND AWARDED A \$100 PRIZE AGAINST NUMEROUS LOCAL COMPETITORS WAS PLAGIARIZED. SHOTS WERE EXCHANGED UNTIL THE AMMUNITION WAS EXHAUSTED, BUT NEITHER OF THE CONTESTANTS WERE SERIOUSLY WOUNDED.



HORACE GREELEY, 1853
by WILLIAM SHEW



PORTRAIT OF A PROMINENT CALIFORNIAN, 1852
by WILLIAM SHEW



GENERAL JOHN A. SUTTER
The first gold discovered in California was found upon the property of General Sutter

He was only a few days in this new locality when he was ordered off by the municipal authorities, who feared that he might lay claim to the lot if allowed to stay too long, as was the custom in the pioneer days. He then removed and squatted on a vacant lot in Brenham Place, where he did a thriving business for a year, in his little cart. By this time, the Fire Department becoming more efficient, he moved into a building on Clay, between Kearny and Montgomery Streets. He had not been there two months before he was burned out. But a little incident of this kind did not discourage the young picture maker, and he started again on a larger scale, in a building owned by Tiburcio Parrott, on Montgomery Street, near California, where he continued for twenty years. Kearny Street afterwards becoming the fashionable center, he located there in '71. One more move was made on this street to his present quarters, between California and Sacramento.

The fame of the pioneer photographer became widely known all over the Pacific Coast and there is scarcely a name identified with the early history and progress of California that will not be found on the yellow and faded registers in the old gallery. On the walls hang pictures of men and women whose memory will ever be present so long as California and her history are known, while shelf after shelf laden with hundreds of wet-plate negatives, still preserving the sparkle and brilliancy of years ago, literally frame the rear of the studio.

Mr. Shew was the instructor of the many well-known photographers who were prominent in their time, both in San Francisco and the entire Coast, the majority of whose names are now but a memory.

The handsome illustrations accompanying this article are selected from pictures some of which date back to the second year after the announcement of the discovery of fixing images on metal plates. One of Mr. Shew himself, taken on a silvered copper plate when twenty-one years of age, another, an ambrotype on glass, taken when he was forty-one, the last, from a negative made on the modern dry-plate, when he reached eighty-one years. He has promised to sit for the CAMERA CRAFT on his one hundred and first birthday, which will then, of course, be a picture taken in all its natural colors.



ON THE SACRAMENTO RIVER

CELEBRITIES BEFORE THE CAMERA

BY HORATIO F. STOLL

It is doubtful if there ever was such an outcropping of cameras in this city as on the May day, a little over a year ago, when the late President William McKinley formally entered San Francisco. The edges of the sidewalks on Market and Kearny Streets and Van Ness Avenue were literally fringed with curious photographers, anxious to secure a likeness of the President, who had won the sympathy of all through the sudden severe illness of his invalid wife. I shall never forget the keen disappointment suffered by one of my friends on this occasion. Perched on a stepladder at the corner of Kearny and Sutter Streets, he sat in a cramped, uncomfortable position for an hour awaiting the approach of the President. Finally, there was a general commotion along the line, and the photographer, by this time almost in a state of nervous prostration, rested his camera firmly on his knees, focused so as to take in the center of the street, and awaited the crucial moment.

As the carriage of honor neared his vantage point, President McKinley stood up, bowed graciously to the right and left, his silk hat grasped firmly in his right hand. From the upper window of one of the corner buildings a rose was thrown by an enthusiastic girl, and, strange to say, it fell into the President's hat. He immediately picked it out, raised it to his lips and, with beaming countenance, nodded in recognition to the upper windows from whence had come this token of good-will and affection. It was a dramatic bit of by-play, observed by only a few of that mighty throng, but it made a picture which many an artist would have traveled miles to secure. My friend was congratulating himself on this stroke of good luck when, just as he squeezed the bulb and the shutter of his camera clicked, several enthusiastic men, carried away by the sight of the President, cheered lustily and waved their hats in such a manner that they covered the lens of the patient photographer's camera. In his desperation, he shouted to them to lower their hats, but before he could readjust his machine for another snap, the carriage had passed and the golden opportunity was lost.

In his recently published posthumous volume, "Men and Memories," John Russell Young tells of the amusing attempt of an enterprising artist to photograph Abraham Lincoln when he delivered his famous Gettysburg speech. By dint of much persuasion with the crowd, the photographer managed to place his camera in front of the President. And as Lincoln began to speak he commenced his work, peeping through the lens, dodging his head to catch a favorable position, fooling with the focusing cloth and staring wistfully at the President, and waiting for the right moment to make the exposure. But the President was not a good subject. Whether conscious or not of the honor thus impending, he drove on with his speech, ever holding the paper before his face, the dismayed photographer vainly hoping for one glimpse of the face. And as the President summarily turned to sit down, he desperately uncovered the camera, but too late! The flash of light brought him nothing. There was a general ripple of laughter at his dismay, as he folded his camera and stole away.

As is well known to all who follow the papers closely, President Theodore Roosevelt has a burning dislike for the amateur photographer. A rather unpleasant incident occurred just as he was leaving Grace Reform Church, the first

Sunday he spent in Washington, D. C., after he had succeeded to the Presidency. A fifteen-year old boy, anxious to obtain a photograph of the Chief Executive, had stationed himself on the sidewalk about sixty feet from the entrance to the church. As soon as President Roosevelt reached the sidewalk, he saw the boy with his big box immediately, and, raising his hand in a signal to a bicycle policeman standing near, said: "Stop that, stop that!" The officer jumped in front of the camera and the President strode forward almost on a run. Coming up to the boy he shook his finger menacingly at him and declared: "You ought to be ashamed of yourself trying to take a man's picture as he leaves a house of worship. It is a disgrace. You ought to have more respect for the proprieties and the sanctity of the day than to pursue people to church for the sole purpose of snapshotting them." The policeman, manifestly agitated, was standing with his broad back close to the camera while the President spoke to the photographer, who, evidently accustomed to rebuffs of this kind, smiled blandly at the President as he walked away.

It is said that the Roosevelt children have learned their lesson well, and whenever they espy a camera, the little fellows duck their heads and move about in such a way that it is impossible to catch them. Not long ago Archibald, who attends one of the public schools of Washington, D. C., found himself in an embarrassing position. He had mounted his bicycle and was about starting home, when a photographer appeared straight in front of him. There seemed no escape for the lad, but just then a great hay wagon came down the street. In a flash the child turned his wheel and rode directly under it, continuing between the wheels until a corner was turned and the danger passed.

Recently an Eastern weekly published a series of striking pictures showing the President taking fences on his famous charger Bleistein. This is the story which is told of their origin: A certain New York newspaper wired to its Washington bureau to get a picture of President Roosevelt on horseback. It was an impossibility. The paper then wired instructions to "fake" such a picture. An order was given to a good photographer who took the President's head and transferred it to the body of an equestrian. The job was so neatly done, that when the picture was sent to New York, the artists there asserted that no fake photograph could have certain characteristics shown in the picture. A message came back that the picture was not a fake, and orders were given to get the "story" and all about it. The fraud was so neatly done that some one showed it to the President, and his first words were: "Where did you take that?" A second glance, however, showed him that the horse, although very like, was not Bleistein, and the President laughingly detected the deceit. He was so pleased with the workmanship, however, that he promised, if the "fake" was not published, to give the photographer a chance to make some real pictures. This little act of kindness is characteristic of the President. He likes good work in any line. The result of his promise was a beautiful set of equestrian pictures, showing the President and his horse in all the positions of an active horseman.

At the launching of Emperor William's yacht, the Meteor, as the President and his wife and daughter were leaving the platform which had been specially erected for the distinguished guests, a little fat man worked a clever ruse on Roosevelt. He took off his hat and shouted: "Three cheers for the President and Prince Henry!" The President instantly turned around to make

acknowledgment. As he did so, the little fat man flashed a camera, which caused the President to smile, but he posed for the "fiend," and the latter was happy.

Cameras proved the bane of Prince Henry's visit to America. Every move he made, from the time he landed until he departed, was faithfully recorded by the dreaded machines. When he visited Lincoln Park, in Chicago, for the purpose of laying a wreath on the Lincoln monument, he was photographed by a horde of camera workers. When he deposited a wreath at the tomb of Washington, at Mount Vernon, he strongly protested against being photographed in the act. "It does seem to me," he said in more of a plaintive than an angry tone, "that when a man is doing an act of reverence he might for that moment at least be spared by the photographers." But he was not spared. The click of the shutters was all about him like the fire of a skirmish line, and it kept up until he was again in his carriage and out of range.

All notable visitors to this country make the same complaint. In New York, recently, the Countess de Rochambeau, who was en route to Paris, after having been present at the unveiling of the Rochambeau statue at Washington, D. C., said: "Next time I come I hope that the photographers will be busy following the Emperor of Germany, or some other high personage, so that I may go about in peace. That is a very offensive habit they have of following people and photographing them without any provocation whatever. I submitted gracefully at first, but now, whenever I see them coming, I feel as if I had committed a crime and were about to face my executioners."

Nevertheless, in spite of these uncomplimentary remarks of the Countess, we read in the Paris papers that snapshot photography has become such an absorbing pastime in Paris society that an amateur exhibition has just been held in the Galerie des Champs Elysees, which attracted scions of almost every aristocratic family.

In England, too, the amateur photographer is met at every turn. Julian Ralph bears out this statement in his description of the funeral cortege which carried the remains of Queen Victoria from her castle on the Isle of Wight to the royal yacht en route to London. "The solemn procession," he says, "wound its way along a country lane. Following the body on the gun carriage were eleven royal women — queens and princesses — in black nunlike garb, trudging on foot in the muddy road. Waiting for them in the tree branches, on the walls, on the roofs, on the chimneys, on the gate posts, in the upper windows, were scores of men with cameras. One photographer had brought with him a ladder of extraordinary height and amazing slenderness, up which he clambered to the top with a large camera, so that he looked like a blackbird and his camera like the box nest in which he lived. The wind blew strongly and the airy ladder rocked and swayed to and fro. The princesses, walking meekly in the mud with downcast eyes, did not see the contraption or realize the danger of it falling upon them. But King Edward did. He looked up and saw the swaying, rocking figure over his head and when he had passed it, I do not doubt, he heaved a sigh of relief. Perhaps he wondered if it would fall on any of the court functionaries behind him and whether they or the photographer would get the worst of it." Judging from the countless imperial groups which appear in the English and European high-class weeklies, royalty and the nobility take a great delight in posing for pictures. They have only one horror, and that is being snapshotted. They want to have a

chance to pose and look pleasant. In Germany, in spite of the Kaiser's love of being photographed, it is said to be a legal offence to point a camera at him or at any member of his family without having received permission.

The late Empress Elizabeth of Austria was decidedly averse to being snapped by camera fiends or even posing for professional photographers. This prejudice was one she had displayed for a good many years before her death, and the result was that, after her assassination in Switzerland, the only picture obtainable in many cases was one at least twenty-five years old. She always carried with her a large black fan or a parasol which she used as a screen to protect herself from the omnipresent camera man. It is believed that the only time she was caught off her guard was a few months before her death. A photographer hid behind some bushes and got a fairly good picture of the Empress walking with the Emperor at Bad Nauheim.

During his recent stay in Constantinople, William E. Curtis found it impossible to buy a photograph of Abdul Hamid at any picture store. The dealers all told him that since the Sultan's accession, none have been taken. "The portraits that frequently appear in the illustrated papers," Mr. Curtis says, "have been sketched from memory by artists who have seen the Sultan. The portraits of his sons, however, can be purchased wherever such things are sold in the Turkish capital."

Faked photographs of celebrities are not at all uncommon. M. Dollfus, in his book, "*Modeles d'Artistes*," says that Victor Hugo never sat for any of the popular portraits and photographs which were in great demand during the latter part of his life. Dollfus claims that they were not portraits of Hugo, but of a crayon-seller of the Latin Quarter, who bore a striking resemblance to the great author. The substitute earned a good income by posing for these portraits, and the resemblance incidentally brought him other benefits. He was largely responsible for the common rumor that it was the author's custom to ride in cheap and public conveyances, even in the coldest weather, and to permit his admirers to pay his three-cent fare. In the evening the crayon-seller frequented the cafés and accepted the "treats" from credulous persons, who boasted next day of their familiarity with the great writer. In this way the impostor satisfied his thirst for wine and fame at small expense. But, alas, Victor Hugo died, and with him his double's reflected glory. No more did photographers care to have the impostor pose.

When half-tone photographs were first introduced in the newspapers, they were welcomed as a great improvement on the miserable cuts which formerly supplemented the news of the day. Upon beholding some life-like snapshots of himself for the first time in an Eastern publication during the campaign of 1892, Senator John Sherman is said to have remarked to a friend: "Well, well, our time for criticizing the newspaper men is over. They have us to rights now. Here I am just as I am, and I'm a caricature of what I always thought I was."

So familiar have the public become with the faces of distinguished Americans, that no matter where they may go, they are sure to be recognized. It is related that some years ago when Bishop Potter, of New York, was traveling in Minnesota, a man approached him on the railway platform and scanned his features closely. "Excuse me," he said, finally, "but haven't I seen your

picture in the papers?" Potter was compelled to confess that he had. "I thought so," remarked the inquisitive one; "may I ask what you were cured of?"

It is amusing to read of the restrictions which are placed on the photographer abroad, for in the United States he is supreme. Nothing can stop him; everything is in his favor. Yet once in awhile, he does get a setback. For instance, a few summers ago, a newspaper photographer attempted to take photographs of the wives of William K. Vanderbilt, Jr., (formerly Miss Birdie Fair) and Hermann Oelrichs in front of the Casino at Newport. The ladies protested against being snapped, but the photographer did not heed their wishes. An hour later, Mr. Oelrichs and Mr. Vanderbilt appeared upon the scene, and much to their surprise, found the man still at the Casino entrance, shooting his camera most audaciously at society women. The two men accosted the camera fiend and expressed their indignation. One lively word led to another, until Mr. Oelrichs raised his foot and sent the camera out of the man's hand and sailing skyward. When it came down on the hard brick walk, it broke into a dozen pieces, and the film, with the pictures of Mrs. Vanderbilt, Mrs. Oelrichs and others, were exposed to the light and destroyed. The man wept at the loss of his camera, and left, saying that he would sue Mr. Oelrichs, but no complaint was ever made to the police. The Newport cottagers applauded Mr. Oelrich's action, for they were indignant at having to run the gauntlet of a dozen kodaks every time they stepped off their porches or climbed into a carriage.



FAIRY TALES

BY ADOLPH PETZOLD, LOS ANGELES SALON



LIBERAL ARTS BUILDING

WHERE INDUSTRIAL PHOTOGRAPHY WILL FIND A HOME AT THE WORLD'S FAIR IN ST. LOUIS

WITH FULL INFORMATION AS TO DETAIL

The Department of Liberal Arts, in which the industrial photographic exhibits will be quartered, will occupy an entire building, covering an area of about four hundred thousand square feet, and all exhibits will be on the main floor. The Liberal Arts Palace was designed by Barnett, Haynes & Barnett, an architectural firm of established repute in St. Louis, and is the most easterly of the main exhibit buildings, being near the United States Government Building.

It will be built of staff at an estimated cost of five hundred thousand dollars. Although following the prevailing style of architecture of the Exposition, the Renaissance, it adheres very closely to classic lines. The architects describe the structure in the following terms:

"The style of architecture is a severe treatment of the French Renaissance for the exterior facades. In fact, the treatment embodies rather a feeling of the classic than of the Renaissance. It has been the endeavor of the architects to depend largely on sculpture in the decoration of the building, refraining from the over-use of stereotyped architectural ornamentation.

"The main facade will be seven hundred and fifty feet long and will be made interesting by the use of a center pavilion and of two end pavilions. The center pavilion is brought somewhat above the connecting buildings which unite it with the pavilions on either side. Each of the three pavilions, on the fronts, forms an elegant entrance to the building.

"On the main facade are three entrances, and on the five-hundred-and-twenty-two-foot facades are two entrances, one in each of the end pavilions.

"The main entrance will be in the form of a hemi-cycle with circular colonnades. The ceiling of this hemi-cycle will be frescoed on a background of old gold. The decorations and ornaments will be brought out in relief. The plan is conspicuous for the perfect simplicity of its arrangement and the practicability of its exhibit spaces. The ten main entrances of the building intersect the exact

centers of the exhibit spaces, the axial lines of these entrances running through the centers of the exhibit spaces from east to west, and from north to south.

"One of the most beautiful treatments of the exterior will be the broad allegorical, processional frieze on the interior walls of the exterior loggias. These mural paintings will be executed on a background of old gold.

"The building is to be constructed without interior columns, the exhibit space being spanned in one truss. The internal court can, if necessary, be used as an overflow exhibit space. The exhibit space is adapted to any kind of exhibit and the building will be ventilated and lighted by an abundance of windows, both in the exterior walls and in the clearstory.

"The court of the Liberal Arts Palace will be carried out in the Italian school of architecture, and will be inclosed by colonnades embellished with rare statues and beautiful arabesques. The cloisters formed by these colonnades will afford cool promenades for the visitors to the Fair.

"It is the intention of the architects to have this court laid out with flower beds, and to instal hanging gardens at the attic story line. In these gardens there will be groups of statuary by reproductions from antiques. In the center of the court will be a beautiful basin of water, in whose limpid depths will be reflected the gardens and the classic lines of the colonnades. This basin is surrounded by balustrades and approached by broad flights of steps. In the angles of the court there will be Italian fountains enriched with statuary. The gardens will furnish visitors a delightful place for resting and for sight-seeing.

"The inner walls of the court entrances will be decorated with mural paintings in the style of Alma Tadema.

"These courts will be one of the charming features of the Exposition, and when illuminated at night with glistening cascades, flowers and fountains, will form an enchanting picture."

Diligent efforts will be made to fill this building with attractive and interesting exhibits of products and processes of the highest types of the various arts and industries of today from all parts of the world, and at the same time illustrate their evolution by showing some of the products and processes of the earlier days.

The group under which Photography has been placed is No. 16, and is divided into the following classes:

Class 54. Materials, instruments and apparatus of Photography, equipment of photographic studios.

Class 55. Negative and positive Photography on glass, paper, wood, cloth, films and enamel. Photogravure in intaglio and in relief; photocolligraphy, photolithography, stereoscopic prints. Enlarged and micrographic photographs. Color Photography. Direct, indirect and photo-color printing. Scientific and other applications of Photography. Artistic Photography as applied to portraiture, landscapes, etc.

This group embraces the equipment, processes and products of Photography in all its branches.

Photography will here find an attractive home, amid congenial surroundings filled with displays of the graphic arts, music, the drama, civil engineering and architecture.

Special provisions will be made for the display of selected high-grade examples of artistic Photography.



LE PRINTEMPS
by FRANCES THOMPSON
LOS ANGELES SALON

Admission to this class may be confined strictly to such art work in Photography as may satisfactorily pass the critical inspection of the National Jury of Selection of the Department of Art.

The pictures from United States exhibitors which are thus admitted shall be hung in the United States section of the Art Building to such extent as the room available will permit.

The pictures from foreign exhibitors will be admitted under similar rules, but must also, in all cases, conform to the rules of the respective foreign sections to which they belong, as to whether they can be hung in the foreign sections of Art or not.

A suitable, attractive space will be specially prepared in the Liberal Arts Palace where pictures selected in accordance with the above rules may be properly displayed in case they do not find suitable space in the Art Building.

Under this system there should be gathered such a fine array of artistic Photography as will merit the admiration of art connoisseurs, and win the plaudits of artists of the older schools of the brush and pencil.

The very large number of professional and amateur photographers in all parts of the world, who are daily producing pictures of a high order, will doubtless gladly lend their aid in gathering a most interesting and valuable display of their work.

The latest developments in color Photography in all its phases should be freely treated, as also the scientific applications of Photography to astronomy, surveying, etc.

The photo processes also afford a fine field from which to gather attractive exhibits.

All classes of cameras and their appurtenances will find a suitable place in this group.

It would also be very gratifying to have examples of the work done, and the cameras used by Wedgewood and Dady, Niepce and Daguerre, and others of the earlier workers, to show the progressive steps of this wonderfully fascinating art.

The specific mention of certain features of the several classes are simply suggestions which can readily be amplified by similar treatment of every item in the classification.

The Rules and Regulations of the Exposition accompanying each application blank should be carefully considered before filling out requests for allotments of space. These must, in all cases, conform strictly to said rules and regulations.

In the preparation of exhibits, it should be borne in mind that the best interests of the exhibitor, the visitor and the Exposition require that no effort be spared to make the exhibit attractive in its arrangement and in its movement, and special processes should be shown whenever it is practicable.

While as liberal allowances of space will be made as are found to be practicable, exhibitors should restrict themselves to as few well-selected examples of their products as permissible with due regard to the creditable display of the best features of their work, rather than attempt to make an exhibit attractive through its magnitude.

There will be no charge for space occupied by exhibits, and a limited amount of power for the operation of mechanical devices to illustrate processes of special interest will be furnished to exhibitors gratuitously.



A SKETCH
by PERCY F. DANA

WHAT BECOMES OF THE AMATEUR PHOTOGRAPHER?

AN ESSAY BY W. I. SCANDLIN

Of course everybody knows what becomes of the good little boy who goes to Sunday school every Sunday, and never plays truant on week days. He grows up to be a prosperous business man, is the model of his vicinity, lives to a ripe old age, honored and beloved by all who know him, and finally, just before his pinions are sufficiently developed to be visible to the naked earthly eye, is translated, and all this without apparent effort on his part. In fact, the whole routine is held by some to be a natural sequence and development. But how about the amateur photographer? How does he or she grow up, and into what develop? We all know how difficult it is for this numerous and interesting portion of the community to devote the same amount of time and attention to the Sunday-school idea that is possible in the case of the good little boy, owing to the alleged necessity of utilizing for photographic purposes that period of time embraced between the going down of Saturday's sun and the coming up of the same orb—so soon afterward—for Monday morning. But, nevertheless, and in spite of this, we know lots of amateur photographers who stand very high in the community, and who, notwithstanding the temptation of the darkroom, are honored and respected citizens of the communities in which they live. It is not, however, of their higher development that we would speak in this article—except to say that the study of Photography and the acquaintance with the beauties of nature which it discloses, cannot but develop the highest and best that is in one—but to ask in good faith what becomes of the amateur, as an amateur, after his first year or two of hard and conscientious work with the camera? Where does he go to and what does he develop into?

It is a well-known fact that many thousands of cameras and photographic outfits are sold each year, a large proportion of which go into the hands of those who have, up to that time, never devoted any thought or attention to the study of Photography. Why is it that of this vast number so few ever reach a high point of proficiency in the use of this most interesting and instructive implement?

Camera workers may, we believe, be broadly classified into three groups or classes: The first, embracing those who rush madly into a pastime full of enthusiasm and anticipation, only to find with astonishment, after a few weeks or months, that the number of their failures exceeds that of their successes, and who then lay it aside for some new fad or fancy into which they put an equal amount of brainless effort, only to discard it in turn for something else. The second class may be said to consist of those who, taking it up in much the same way as the first in the early beginning, follow the work along season after season always with indifferent success, but with just enough fairly good results to give their friends excuses for flattery and adulation, and to keep them year after year turning out photographs, a few of which may be pictures, but most of which are of no merit or value. While the third class embraces that very limited number of enthusiasts who, seeing in Photography the possibilities of pictorial development, and realizing the earnest effort required to thoroughly understand its principles, and something of the unalloyed pleasure to

be obtained in the mastery of difficult problems, put their whole soul into the work, and achieve such results as bring them prominently into public notice and associate their names with the intelligent development of a science which is very closely allied to art.

Why should not and why *do* not more of the first and second classes graduate into the third? There is ample room in this third class for a very great increase in number, and the pleasure and profit accruing to the student in the intelligent mastery of the more or less difficult problems presented are no less than that attaching to the community in viewing the results of his handiwork.

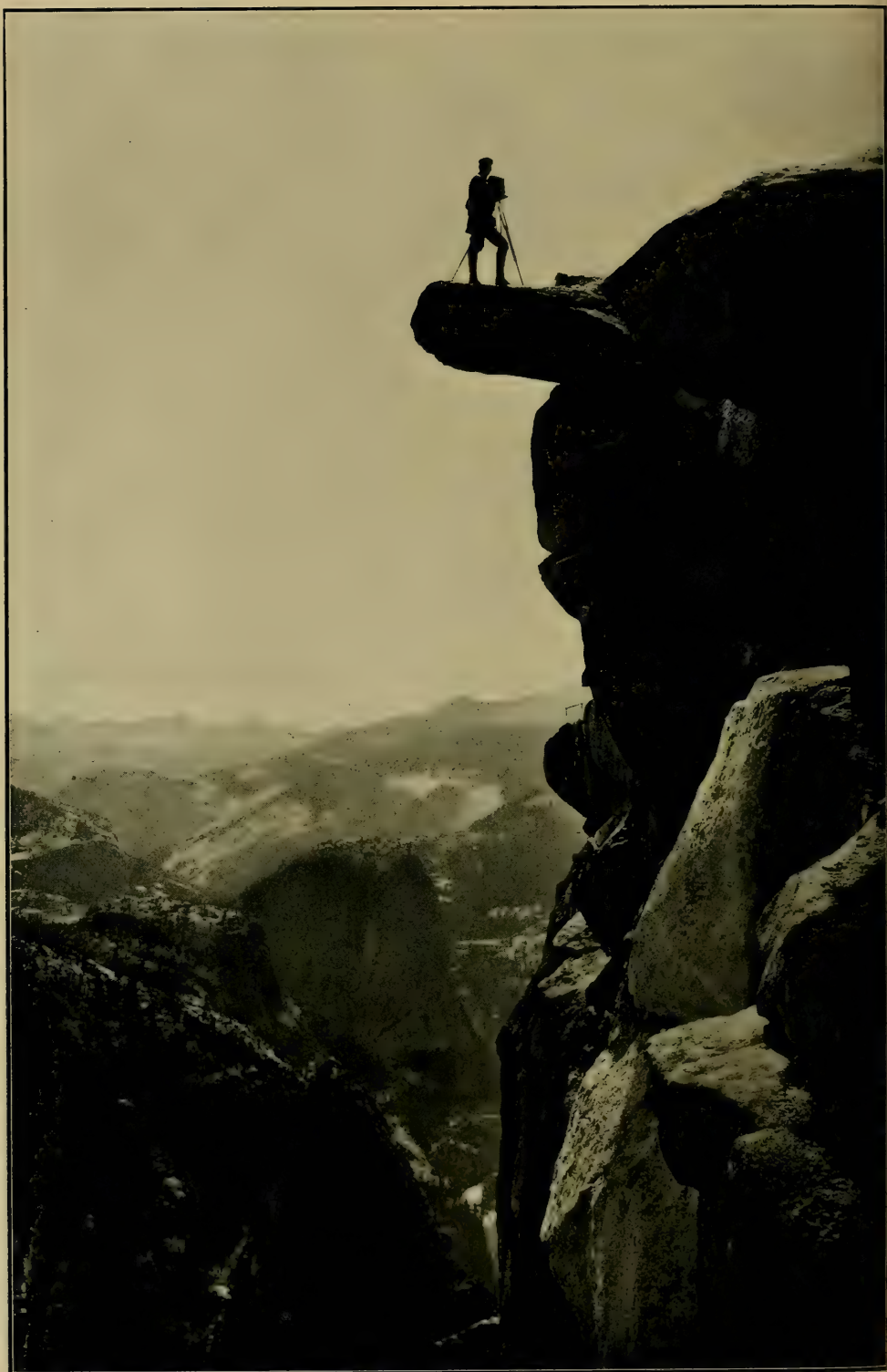
There is, perhaps, another small group somewhat distinct from either of these three, embodying those who, having acquired proficiency in the manipulation of the camera and being endowed with a keen perception of the artistic, do produce good work which, however, they keep, like the light under the bushel, for their own enjoyment and that of a small circle of friends without giving it to the general public, where it would also be highly appreciated.

It may be said that Photography, being primarily a pastime, should not be taken too seriously, but we believe, in view of the mighty strides that have lately been made toward placing it on a solid footing of artistic excellence, sufficient interest should be taken by its votaries to give it serious study, even in its application to the pleasures of life.

The fault or misfortune attaching to many of the workers in the first class is, we think, due to the fact that a large number of them delegate all the work of developing, printing, toning and mounting to others, instead of carrying on these processes themselves and thus obtaining an acquaintance with the principles on which good work depends. It may readily be perceived that one will tire of continually making exposures of subject after subject without knowing anything of the intricate and interesting process by which these exposures are converted, step by step, into finished pictures.

If a larger proportion of the beginners in Photography would make a practice of doing their own work from beginning to end, taking it up in the same way that they undertake anything else which involves an outlay of money, and becoming proficient in each step of the work as they proceeded, there would be not only a far higher percentage of good work produced, but there would also be a much larger number of workers developing year by year into that class of photographers whose intelligent efforts are a credit to themselves and a benefit to the community.

Pages might be written on this subject and then not half be told. The earnest plea in the matter is that more attention be given to the basic principles of Photography in its early study, as it is only in this way that a full appreciation of its possibilities may be grasped and the best enjoyment be gotten from it. When this method of procedure becomes more universal than it is today, it will not be necessary to ask the question, "What becomes of the amateur?" for he will be in evidence on every hand with work of a high standard, and his enthusiasm, instead of cooling at the end of a few months, will have become a strong and healthy motive power in his life, constantly forcing him into a keener and more delighted appreciation of the beauties of nature and the possibilities of the camera to depict them.



A POINT OF VANTAGE

If the photographer's camera had slipped it would, in all probability, have been broken, as it is 3200 feet to the bottom



THE CLUB CAMPFIRE

OUTING OF THE CALIFORNIA CAMERA CLUB TO THE YOSEMITE

BY DR. G. G. BURNETT

ILLUSTRATED BY CHAS. WIEDNER

Yosemite! What magic in the name, and with what delightful anticipations did thirty-five members of the California Camera Club enroll their names for their annual outing to this paradise of marvelous scenes. Something of a sensation was apparent on the five o'clock evening boat when, on June 7th, these precious seekers after pleasure and profit filed on the Oakland with cameras in hand, or strapped across the shoulder. It was evident that the crowd was equipped to take anything in sight and it was amusing to see how suspicious the passengers were when a camera was pointed in their direction, and how quickly they could disperse if they suspected that they were within range of the lens. The largest thing taken that day, however, was the Pullman sleeper at the Mole, which was completely filled, and which whisked us speedily along the shores of San Francisco and San Pablo bays, and into San Joaquin Valley over the smooth highway of the Southern Pacific.

Five o'clock next morning found us at Raymond, the terminus of the railroad. The hotel had been burned two days before, but the improvised breakfast in the principal grocery store of the place was unique and worth remembering. Three stages were required to convey the party and, after the piles of baggage were stowed away, the members took their seats and the pilgrimage of the day began. The oiled roads advertised by the stage company are a success in keeping down the dust, but as yet they extend but an hour's



CENTRAL DOME

travel, though the promise is that the good work will be advanced as the season progresses.

The first day's staging was up, around and over the foothills of the valley, and into the lower Sierras, forty-four miles to Wawona. The hotels at Ahwahnee, where we lunched, and at Wawona where we remained two nights, merit the approval of their guests, and memory lingers around their well-furnished apartments and epicurean meals with delight. At Wawona we met a valued friend in Thomas Hill, the artist, and as we looked upon the treasures hung upon the walls of his studio, we could but feel that future generations would value the genius of his brush at many times the figure placed upon them now. Artists, while living, seldom win the approval of the public, but when life's struggle is over their works live and grow in the estimation of the world. Hill's paintings are faithful and true; ought to be purchased as an entirety, placed in Golden Gate Park in a building specially erected for them, and posterity permitted to revel in and enjoy these splendid works of art.

The Mariposa big trees claimed the attention of our party for an entire day, and the click of the shutter was constantly heard recording enduring evidence of the majesty of these noble giants of nature. The wisdom of the government in reserving this section of land from settlement and preserving it as a public park is highly commendable. Six hundred and fifty sequoia trees of various diameters, heights and ages are scattered over the preserve of two thousand five hundred acres, at an altitude of over five thousand feet above sea level.

A half day's stage ride on the fourth morning out completed the remaining twenty-six miles into the valley of the Yosemite. From the time Inspiration

Point was reached until arrival at the Sentinel Hotel there was a succession of exclamations from the party as each turn of the road revealed new scenes and beauties to the eye. Our visit was well timed; the vegetation was fresh and green; ample water was flowing over the numerous falls; animals were in excellent condition for climbing the trails and the one hotel, supplemented by the various camps, was accommodating six hundred guests, yet their expansive ability was such that our party and, in fact, all comers were provided with excellent quarters and abundant food. For several days we were at the hotel, and then tried the camp under the hotel management. The tents are clean; being erected on wooden floors, and fitted with good beds with ample covering, and all necessary conveniences. Forty tents, holding two to four persons each, are now up, with thirty more in course of erection. The table was well supplied and the huge campfire at night was a delight. The music of the falls of the Yosemite back of us was ever present, while the charming violin solos rendered by Hother Wismer, at the evening campfires, pleased us greatly.

The ten days in the valley were spent in excursions here and there, viewing the numerous falls, traveling the various trails to mountain heights, filling us with delight as the succession of lovely scenes unfolded themselves, and our cameras with indelible impressions of these glorious sights for our future enjoyment.

The writer has been all over the American states, and has seen about all the show places in our country; three trips to Europe have permitted an inspection of many of the beauties of that continent; but nothing in either country satisfies the expectation of the visitor or equals his anticipations as does



COLUMBIA POINT

this wonderful valley in our own State. The boldness of its tremendous heights is appalling, and each day's sojourn seems to add to their impressiveness. Our party did full justice to its many points of interest, but when the time drew near to leave we were loth to go.

The entire management of the party devolved on W. J. Street, and right well did he carry out the trust reposed in him—not a hitch anywhere, every detail carried out smoothly and everybody well pleased. He richly deserved the thanks of all participants. Mr. Street proved himself a nimrod of exceptional fortune, for each day he supplied the table with trout of his own catching, delicious in flavor. Dr. Barbat's success as a snake exterminator was established and his ability as a taxidermist will be attested by the early appearance of belts encircling the waists of two of the ladies, made from rattlers' skins.

We left the valley late in the afternoon and witnessed a magnificent sunset from an elevation of seven thousand feet. Away off over the foothills we could see the flat plains of the San Joaquin, with its wealth of golden grain, stretching miles upon miles until lost in the distance. As the sun sank below our vision, the whole sky was lit up with a sheen of silver, melting as it approached the horizon into cloth of gold, and these in turn gradually faded away to be replaced by the light of the full moon, flooding mountain and valley with its glorious light.

NEW EDITOR OF CAMERA NOTES

CAMERA CRAFT is in receipt of the welcome intelligence that the publication of *Camera Notes* will be continued with Mr. Juan C. Abel as editor. Mr. Abel is one of the prominent members of the New York Camera Club and has had wide experience in the management of photographic publications. *Camera Notes* and its new editor have our sincere good wishes.

THE BATTLE WON

The strong pressure brought to bear upon the management of the St. Louis Exposition has at last had the desired effect, and Art Photography will be admitted to the Art Building upon the same basis and subject to the same scrutiny as the work of the painter and sculptor. The new ruling is embodied in a recent bulletin issued by Colonel Ockerson and printed elsewhere in this issue.

Photography now has the opportunity for which it has long been waiting—a national exhibition of pictures selected by a competent jury and attended by none of the discussion and strife that sway the exhibitions of local character. Let us accept this opportunity in the spirit in which it is tendered and pull together for the success of the Exposition and the photographic section.

CAMERA CRAFT feels jubilant over the concessions, which it has consistently advocated, feeling that the conditions which confronted the craft under the old ruling approached a crisis in the advance of Art Photography. To Mr. J. C. Strauss and his fellow workers, who have been so earnest in their plea for the admission of photographs to the Art Building, CAMERA CRAFT extends its congratulations.

CAMERA CRAFT

ISSUED MONTHLY BY
THE CAMERA CRAFT PUBLISHING COMPANY
114 GEARY STREET, SAN FRANCISCO

Entered at the Post Office in San Francisco
as second class mail matter

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VOL. V.

SAN FRANCISCO, CALIFORNIA, JULY, 1902

No. 3

The third San Francisco Photographic Salon should be held in the fall of 1903 instead of the beginning of the year. Conditions, against which the management of the first and second salons had to contend, furnish ample reason for the move which will undoubtedly be made.

A decision has at last been reached in the case of Abigail M. Roberson, known as the "right of privacy" case, and the decision is in favor of the defendants. Miss Roberson, a beautiful girl, entered suit against two companies, asking heavy damages as compensation for the use of her picture in advertising a brand of flour.

The opinion, which is of far-reaching importance, says in part:

"While most persons would much prefer to have good likenesses of themselves appear in a responsible periodical or leading newspaper rather than upon an advertising card or sheet, the doctrine which courts are asked to create for this case would apply as well to one publication as to the other, for the court of equity is asked to assert in support of recovery in this action that the right of privacy exists and is enforceable in equity on the ground that an individual has the right to prevent his features from becoming known to those outside his circle of friends and acquaintances. Examination of authorities leads us to the conclusion that the so-called 'right of privacy' has not as yet found any abiding place in our jurisprudence."

It would seem in the opinion of the court that, although Miss Roberson suffered from the publication of her picture upon advertising matter, the remedy sought for would create a precedent dangerous to the welfare of the press and reputable publications. Therefore, there can be but one course taken by the pretty girls who do not wish their pictures spread broadcast over the land, and that is to patronize a reputable photographer and exercise care in bestowing prints.

A French court recently decided that a photographer has no right to dispose of copies to anyone but his customer, nor to make use of them in any way, but that he may do so in the case of celebrities of past or present fame.

This seems a more equitable decision, inasmuch as celebrities court rather than reject publicity.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

114 GEARY STREET SAN FRANCISCO

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All photo supply dealers and news dealers are authorized to receipt for subscriptions in our name. Price per year \$1.50; Foreign \$2.00. Back numbers can be obtained direct from the publishers at 15 cents each.

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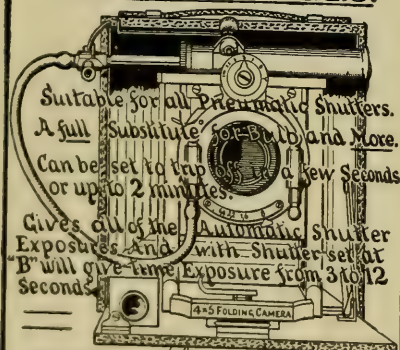
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CONTENTS, AUGUST, 1902

COVER MINIATURE— <i>F. E. Monteverde</i>	
THE WINE OF LIFE— <i>Adelaide Hanscom</i>	129
A CALIFORNIA GIRL— <i>Robert Craik McLean</i>	130
WOMEN IN PHOTOGRAPHY— <i>Helen L. Davie</i>	139
THE ELEMENT OF TIME AS A PART OF THE PHOTOGRAPHIC PROCESS— <i>Frank M. Steadman</i>	142
ACTINISM AS A PART OF THE PROCESS	144
THE THIRD CHICAGO PHOTOGRAPHIC SALON	146
A COMBINATION DEVELOPER— <i>Edward H. Kemp</i>	148
WHAT A CAMERA CAN BE MADE TO DO	149
A SERIES OF EIGHT PRINTS	158
EDITORIAL	160
A PHOTOGRAPHIC DIGEST— <i>H. D'Arcy Power, M. D.</i>	164
THE AMATEUR AND HIS TROUBLES— <i>Fayette J. Clute</i>	171
NOTES AND COMMENTS	
FRONTISPIECE	



THE WINE OF LIFE
by ADELAIDE HANSCOM

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. V.

SAN FRANCISCO, CALIFORNIA, AUGUST, 1902

No. 4

A CALIFORNIA GIRL



*Her face is a sunlit savannah
Swept by the warm chinook;
Her form has the grace of the cedar,
Her step like a mountain brook.*

*Her eyes are the blue of the mountain lake
That mirrors the mountain sky;
Her smile is bright as the mesas
That under their shadows lie.*

*Her hair like the shadowy pine ridge
Is dark in each wave and curl;
Her heart is gold from a golden land,
For she's a California girl.*

—Robert Craik McLean.

WOMEN IN PHOTOGRAPHY

BY HELEN L. DAVIE

Modern Photography may be likened to a child of the people who has been adopted into a family of aristocrats. The sisters of her adoption have looked upon her youth and claims to equal rank with some suspicion, not unmingled, perhaps, with jealousy, while the brothers of her childhood, fearful lest they lose her coveted aid in their grand life work, have been inclined to scoff at her pretensions to a family connection outside their circle. Conscious of her own power, however, she has pursued her course, calm and beautiful—until today the Arts are stretching forth welcoming hands while the Sciences willingly acknowledge their indebtedness to her skill.

The opinion hitherto held, both by artists and photographers, coincides with that of the English art critic who said that "Photography was not an art and never could be, by reason of its many mechanical limitations." At the present time, however, Photography is generally recognized as an art, one in which the individuality of the worker may be as forcibly expressed as in sculpture or in painting. A glance at the portraits of Mrs. Käsebier or the figure and landscape work of Clarence White and his associates will demonstrate this clearly.

To the influence of women is this advance in the status of Photography largely traceable. Woman, the conservative, the copyist, as many are pleased to term her, has in this instance been the pioneer, leading the way in pictorial portrait Photography, a way which her brothers have found pleasant and are making haste to follow.

Mr. Juan C. Abel, a well-known writer on Photography, says that the art-science of Photography has captured both men and women, but the number of men who have achieved distinction is out of all proportion to the number who practice it seriously. On the other hand, a very large percentage of the women who have taken it up earnestly are famous.

A few years ago woman was an unknown factor in Photography. Now our most successful portrait photographers are women. Mistresses of their own attractive studios, so different from the regulation photograph galleries with which we are all familiar, they can choose their sitters who are glad to pay the highest prices for the privilege of being photographed by them.

Of Miss Zaida Ben-Yusuf an art authority has said that "It is doubtful if there is a more interesting exponent of portrait Photography. It would certainly take no little search to bring together a half dozen so individual."

Mrs. Katherine Weed Barnes, who began her study of Photography in the year 1886, was the first woman to be officially recognized by the photographic clubs. Today some of the very best work shown at camera club exhibitions throughout the country is produced by the women members.

Miss Chloride Green, a successful New York photographer, is a graduate of the California Camera Club of San Francisco, while Mrs. S. H. Ladd and Miss Lilly E. White, the excellence of whose work is widely known, are both members of the Oregon Camera Club of Portland, and camera clubs of the Middle West have on their membership rolls the names of such artists as Miss Spencer and Mrs. Stanbury.

The recent date of woman's influence is marked by the fact that it is but ten

years since the photographic authorities abolished their medals for women, recognizing that their work was on a par with that of the men and applying the same standard to workers of both sexes, since which time the women have had their full share of photographic honors.

Mention might be made of many women in other lands who have proven themselves skilled in camera craft, among whom is an Italian countess who had twenty of her pictures hung in the Vienna Salon of 1891, also an English woman, Miss Clark, who has been very successful in exhibitions in her own country. On one occasion the judges were unable to decide between her work and that of the most successful of the men exhibitors, and finally awarded a gold medal to each. The "new school," as it is generally called, is so essentially a product of this country as often to be termed the American School of Photography. Miss Mary Carnell had the honor of carrying off the grand prize at the recent Convention of Pennsylvania Photographers in spite of the beautiful work shown by numerous exhibitors of the opposite sex. Mrs. Barnes has done much for the cause, her excellent photographs attracting the attention of the New York Camera Club, before which she has frequently been asked to deliver lectures on Photography. She was also invited to read a paper on "Amateur Photography" at the World's Fair, where she served on the Liberal Arts Board of Judges, being the only woman representing Photography there.

Miss Frances B. Johnston of Washington, D. C., was probably the first woman to open a photographic studio on "new-school" lines. She has been very successful in her work, having made many photographs for the Government. It was Miss Johnston who took the celebrated series of pictures illustrating the American school system, which attracted so much attention at the Paris Exposition where it was sent as part of the Government exhibit. She also represented the women photographers of America at the Photographic Convention held in Paris during the Exposition.

Miss Johnston, Mrs. Käsebier and Miss Watson have all served on the Jury of Selection at the annual Philadelphia Salon, one of the highest honors that can be paid a photographer in this country. There are many reasons for women's success with the camera, particularly as applied to portraiture. The inherent love of beauty possessed so largely by women, their daintiness and fondness for detail, all find graceful expression through the medium of the camera, the mechanical workings of which can be readily mastered. There is unlimited scope for the play of woman's vivid imagination and idealization of the commonplace in life, her exquisite sense of harmony, and skill in arranging draperies.

She excels in portraying child life, that most difficult branch of Photography, for the little ones will turn instinctively to her, when they hang back, frightened at the strange man, who, if they only knew it, is much more afraid of them. Under the sympathetic influence of the woman photographer children fall naturally into their own simple, unconscious poses, and the result is a joy forever to the fond parents.

The quality of patience, which is often strained, is a great factor in the success of the woman photographer and must be exercised continually, not only when exposing a place on a restless child or self-conscious adult, but in every step from the development of the negative to the mounting of a finished print. Patience and hard work in this, as in all lines, are the keynotes of success.



PARTNERS

BY GRACE HUBLEY

Perhaps the chief reason why so many women have become interested in Photography is that it can be learned and practiced at home. Unlike other professions, the camera worker requires no long course of training in art, normal or commercial schools, no hours of wearisome practicing, and entails no daily journeys to and from an office, in fair weather or foul. Again, but a small amount of cash capital is required to successfully launch one in this business. A moderate-priced camera, fitted with a good lens, a substantial tripod and box of plates will enable the beginner to start in business. Add to these a few developing trays, a graduate and the necessary chemicals and her outfit is complete.

Any room in the house which has a north window can be readily converted into a studio, while the bathroom answers every purpose of a darkroom until the business grows sufficiently to warrant something more elaborate. With no other equipment than that just described several of our best women workers began their photographic careers. As an illustration I will quote from a recent letter received from Mrs. Helen P. Gatch of Salem, one of our prominent Coast workers, the following: "I think more portraits should be taken. 'The proper study of mankind is man,' and lack of skylight and other gallery paraphernalia should be no drawback. A single north window, properly screened, has served for all my portraits." Aided only by her love of the work and a determination to succeed, Mrs. Gatch has won a great many prizes and is doing beautiful work. She adds: "I have succeeded just by patient trying. Adding here a little and there a little, surely any one could do that. Directions for the different processes are so plainly given that all one needs is courage."

Photography enables the woman, ambitious for an art career, yet lacking the talent necessary for the successful reproduction of form, to substitute for pencil.

and brush the absolutely accurate lens. With perfect drawing thus at her command she can give her thought to the grouping of her subjects, the attainment of beautiful effects in lighting and perfection of finish.

To the woman obliged to earn her own living, Photography presents a very congenial occupation. Whether she takes up the work with the object of newspaper and magazine illustration, the photographing of interiors, child portraiture, or as a commercial portrait photographer, her income begins at once, and though small at first, is bound to increase providing she gives her chosen calling the careful attention necessary for success in any line of work.

Miss Mathilde Weil, of Philadelphia, who has won medals galore and achieved distinction as a portrait photographer was taking portraits as a professional within two months of the time when she began experimenting with a camera.

Miss Virginia Prall, of Washington, has attained an enviable position among the photographers of this country, although she has been working at Photography only about three years.

Miss Laura H. Adams, of San Francisco, whose work is attracting much favorable attention, has had but two years of experience.

While a course of study in the principles of art is of inestimable value to the photographer, such training is not absolutely essential as has been proven by several of our prominent women workers.

The Misses Allen, of Deerfield, Mass., with no special training in art and no



UNLOADING THE CATCH

BY MYRA A. WIGGINS

teacher in the technicalities of Photography save their own experience (that best of all teachers), have built up a profitable business in making photographs for illustrative purposes. Their pictures are in great demand for books, papers and magazines, and the satisfactory income they derive from this source should be an incentive to other women to follow the same line, this field being a large one, with but few workers therein.

Miss Emma J. Fitz, of Boston, with no systematic art training, took up the study of Photography and has done such beautiful work as to win a medal from the Photographic Society of Great Britain.

Miss Prall, without training in art, is producing some exquisite pictures, her "Mother and Child" having received great praise from prominent painters.

One of the strongest arguments brought against the advent of woman into the business world is that she will do the same work as man for a lower wage. This statement can never be made of the woman photographer. She asks and receives the very highest prices for her pictures. Although she frequently charges as much for a single portrait as the average professional receives for a dozen, her engagement book is usually full, and in the case of the best known of these artists it is impossible to secure a sitting unless one is willing to wait a month or more for a vacant hour. I should have made that plural, for one of these women, at least, insists upon studying her sitter for a couple of hours that she may become familiar with mannerisms and expressions before attempting to pose the subject. In this way the likeness is more akin to the painted portrait than a gallery photograph.

These women not only pose and photograph their sitters, but go into the darkroom and develop the plate, even finishing the print and mounting it, leaving none of this detail to an assistant. In this manner they accomplish the desired results, though they are able to turn out but a limited number of portraits, which makes it necessary that a high price be charged for each. Naturally it is only the financially favored who can boast a portrait bearing the characteristic autograph of such an artist.

It is always interesting to trace the cause which starts successful men and women on a new and untried road to fame, and woman's venture in pictorial Photography proves no exception to the rule.

The study of Photography was first suggested to Mrs. Barnes, who, by the way, is a granddaughter of the Hon. Thurlow Weed, by her mother, who made the beginning easy by turning over to her daughter the attic for a studio and the bathroom for her developing.

In another case, a mother playing with her infant was surprised by her husband, who appeared, camera in hand, with the request that she take all the pictures possible of the baby. What an incentive to good work, and what a dear little model with which to experiment!

Another woman who had studied art and grown discouraged at what seemed to her lack of skill in drawing, took up the camera, saying she would rather be a good photographer than a poor artist.

Mrs. Cameron, the wife of an English official in India, taught herself how to manipulate the camera some years ago as a pastime during her exile, and brought home to England with her forest views unsurpassed by anything photographic then existing.



BABY
by ANNA DESMOND & CO.

Miss Prall took up Photography as the result of a wager, it having been urged by a friend that no one could take a camera and without instruction, make a series of good portraits. She invested in a camera, a roll of film, and at the end of a week had succeeded in taking such satisfactory pictures that she became possessed with a desire to carry the work further. Again, it was to show her appreciation of a gift, not from any desire to experiment with the camera, that Photography was taken up and has proven so interesting as to have become her lifework.

In another case it was a young man who interested our young woman — not in himself, but in Photography. His first unsuccessful attempts attracted her attention, with the result that together they destroyed dry plates without number, and incidentally a corner of the butler's pantry, which was used as a darkroom. The young man soon declared the pastime childish and left his companion to achieve distinction later on with her camera.

The purpose with which Miss Sarah J. Eddy began Photography appeals to us, however, as none of the other cases, in that her object was to give pleasure to others, in which she has certainly succeeded. Her beautiful pictures, liberally donated to hospitals and charitable institutions, relieve the blank monotony of whitewashed walls, and bring to the fever-worn patient fair visions of cooling streams and shadowy forests, snow-clad mountains and surging sea.



SATISFACTION

BY GRACE HUBLEY



THE FIRST SNOW

BY MYRA A. WIGGINS

Modern Photography brings to the woman who has adopted it as a profession, lucrative employment in congenial lines; it has opened a new field in journalism which is largely filled by women, many of whom are conducting photographic departments in various newspapers and magazines throughout the country, or acting as associate editors of journals devoted exclusively to Photography. Many women photographers are furnishing advertisers with pictures, for which they are well paid. Others make a business of illustrating books and magazines, in photographing celebrities for the illustration of newspaper and other articles, and so on.

But there is another class, the amateur, for which Photography has done much, perhaps even more than for her professional sister. Mrs. Myra Albert Wiggins of Salem, Ore., whose work is probably better known than any amateur on this Coast, writes me as follows: "There is no one thing which has aided me so much in my study of drawing and painting as Photography, and it is exceedingly interesting and profitable to study them together. Again Photography has taught me to see things pictorially, for why should one wander far from home seeking subjects, either in landscape or models? Photography has given me the privilege of a trip abroad which otherwise I should not have had the pleasure of enjoying. It has in a measure revealed human nature to me and has given me valued friends and pleasant acquaintances. It has come to mean the seeking to reveal to others, through its means, glimpses of this world with 'God's great pictures hung.'"

Another woman says: "I owe much to its help, in a time of great trouble, as a valuable mental restorative."

It is impossible to estimate the value of Photography to the vast army of women who possess cameras but of whose work we do not hear. What a relief for the woman weary with the daily routine of housework, to snatch an hour occasionally for her photographic pursuits. A plate exposed on her last trip to the country, or a picture of one of the children is waiting to be developed. As the image appears on the blank plate, and details of the shady country road develop, or the features of her little one grow distinct, the petty annoyance of incompetent help, a teething baby or the unbecomingness of her bonnet just brought home, fade away and she issues from her darkroom soothed in spirit and with an unruffled brow. I think I hear some of the photographers asking if she emerges into daylight with the same placid condition of mind and brow when the plate goes wrong. Possibly not, but in that case she has a problem to work out, vastly more interesting than a refractory wash list or grocery bill.

Photography takes women out of doors, into sunshine and pure air. Instead of sitting down to her embroidery or lace work as of yore our photographer picks up her camera and starts in search of pictures. She "Goes forth into the open air and lists to Nature's teachings." It may be that she gets no further than her own backyard where she takes pictures of the children at play, the old cat blinking in the sun, a bit of fence or vine-covered porch. She returns to the house refreshed as from an extended outing. We learn that there are studies in trees, views in the running brooks, compositions in trees and pictures in everything.

Photography broadens the woman's mind and strengthens her character. In a letter from Miss Adams I find the following: "It is exhilarating work, inasmuch as it is creative and diversified. It, however, requires patience. Disappointment and struggling are to be met with here as in everything else, but the reward comes quicker than in most other lines."

Through Photography we are brought closer to our mother, Nature, from which most of us are far too easily weaned. Civilization has its lessons, but they are not always pleasant tasks to con. The lessons Nature teaches sink deep into our hearts, only to spring forth again in blossoms of love and sympathy—flowers even more precious than those ever-welcome blooms which make beautiful our California hills and valleys 'neath Winter's kindly sway.

A WATERPROOF GLUE

A permanent waterproof glue can be made by admixture with common glue of 1 part acid chromate of lime in solution to 5 parts gelatine. The glue made in this manner, after exposure, is insoluble in water and can be used for mending glass objects likely to be exposed to hot water. It is necessary, to affect this end, that the fractured objects be exposed to strong light for some time. Such objects as awnings, sails, etc., can be rendered waterproof with this, but not flexible fabrics. It will be found that the acid chromate of lime is much better than the more generally used bichromate of potash. The glue, when mixed, is kept in the dark.—*Photo-American*.

THE ELEMENT OF TIME AS A PART OF THE PHOTOGRAPHIC PROCESS

BY FRANK M. STEADMAN

The true basis of the process of Photography is contained in nature and is something that the worker cannot *do* but which he must *know*. It is a too common mistake to think of the photographic process as "developing and printing" etc., but the worker must learn that these are only the secondary manipulations.

The manufacturer makes a plate that is sensitive to light; that suggests one of the foundations: chemical sensibility to actinism. The other two elements, actinism and time, are of nature and we must understand and measure them as simple forces before we can claim to know even the "a b c" of the process of Photography.

Without discussing the theory of light we may go directly to the measurement of it as a working force and give its actinic value a numeral expression that will serve greatly to simplify its use as a part of the process.

Papers that darken in the light do so by the action of actinism and if a standard amount of darkening can be fixed, a basis of measurement is at once obtained. The actinometers are based on this theory and the standard color is painted on the meter, and the time is counted between the first exposure of the paper to the light and the point of time when it and the painted standard harmonize in shade.

It is seen then that the ability to count time accurately without the use of a watch is the first lesson a photographic worker should learn. The common way of counting time as practiced by most photographers is entirely wrong. They simply begin with "one" on removing the cap or on pressing the bulb, and proceed quickly with "two, three, four," etc., in quick succession without regard for seconds of time.

Practice—Cut a narrow strip of solio about as wide as the finger and place it under the cover of a notebook, such as described, with the face against the cover and, at different distances from a window, measure the light and mark down with its proper numeral the ascertained value. A very good idea is to give at first enough time to make a strongly contrasting tint. A small end of the strip should be thrust out beyond the back in weak light and covered with a coin, then when you have it turned exactly toward the source of light say the word "naught" and at the same instant slip the coin to one side. Finish the count up to a predetermined number of seconds (using the "S. & T." method), and on saying the last syllable of the required phrase, slip the coin back again over the strip at the point where it projects out beyond the edge of the notebook; then turn the book away to a weaker light and raise the flexible cover without letting the strip move, and see if the contrast is plainly observable. If so, slip the strip out a little farther and make the test again giving less time, until that number of seconds is found in which the just plainly observable contrast is produced.

This is wrong for two reasons: First—There can never be uniformity of method the world over, as each person will count at his particular speed and without regard for a fixed constant. Under these conditions, the phrase



WHEN DOES MY TURN COME?

BY GRACE HUBLEY

"a three-second exposure" means nothing exactly to anyone. The second reason is that by beginning to count at "one" on opening the lens or on exposing a sensitive paper to the light the word "two" is made to terminate the first interval of time instead of the second interval, which it should properly terminate.

Each numeral should terminate its respective interval of time, and the word "naught" should mark the commencement of the first interval, as follows: Say in quick succession the words "naught, one," and you measure one short interval of time, which interval closes when the word "one" is spoken; "naught, one, two," measures and properly names two intervals of time, etc.

On the contrary if, according to common practice, we say "one, two," we measure one interval of time, but on closing that interval we say "two" and not "one," and if we count "one, two, three," then we mark off two intervals of time, but in closing the second interval the word "three" is used instead of the word "two" which would be correct.

In counting in this way the interval of time marked off by the word "three" is only twice as great as that marked off by "two," and the word "four" measures three times as much as the word "two."

The only correct and uniform way is to count the second which is the world's accepted unit of time measurement.

The following, which is the "S. & T." system, will be found of great value by English-speaking people on account of its correctness and extreme simplicity.

It is desirable, in order to get the proper rate of speed, to begin practice by counting up to ten seconds and to look at the watch while counting. First, learn the following so that it may be spoken smoothly and without hesitation:

"Naught — one — half — and — one
 one — half — and — two
 one — half — and — three
 one — half — and — four
 one — half — and — five."

Now look at the watch and when the second hand is exactly at the minute, or some exact subdivision of the minute, begin by saying the first word "naught" and go on counting at a natural speed, being careful that as the second hand passes the little dots that mark the seconds, the words "one, two, three," etc., are said at the right place. In counting up to ten seconds the rate of speed may be readily obtained and by practice one may become very adept at it. Time-counting contests among friends and at conventions are very interesting and diverting as well.

By this method of counting the second is divided into quarters. To count one second, say — "naught one half and one"; two seconds — "naught one half and one, one half and two"; a half-second — "naught one half"; a quarter second is counted by simply saying the word "quar-ter" at the constant rate of speed.

Do these exercises without the camera.

In order to educate the hand to work with the thought it is well to give a stroke on the table with a pencil on saying the first and the last word or syllable of each phrase, or the following method, the form of which is used in measuring actinism on a solio strip, is still better: Lay a narrow strip of any paper on a table and cover all but the end of it with another piece; then lay a coin over the junction of the two pieces and on saying the first syllable of the phrase, slip the coin to one side, and on closing the phrase, slip it back again. *Make the hand move exactly at the same time that the syllables are spoken*, if it does not, the counting is a failure.

In applying this system to exposure, if the "T" release is used on the shutter, the bulb is pressed on saying the first syllable *and is immediately released* then when the last syllable of the phrase is counted it is again pressed, when the lens is instantly closed.

If the shutter has a "B" or "bulb" release, which releases *the instant* that the pressure of the hand is removed, short exposures of one second or less are best made in that way. For example, to give an exposure of one-fourth second place the indicator at "B" and press and release the bulb in exact time with the syllables "quar-ter," as they are spoken at the proper rate of speed.

This matter of counting time is of greatest importance and the student should be diligent in perfecting himself in this system, as he must have this well in hand before he can begin to measure either actinism or exposures with exactness and intelligence.

ACTINISM AS A PART OF THE PROCESS

That force in light which darkens certain photographic papers is actinism, and it can be measured by observing the speed at which such papers darken.

In making such measurements it is necessary to have a standard color in order to mark the steps of discoloration in the darkening paper.

There are two ways to mark or observe the rate of change; one is by comparison or the equalization of two colors and the other by observing the contrast between two colors. The equalization method has been advocated by all the manufacturers of actinometers and probably because with that method a special mechanism is necessary, and the mechanism could be sold. With the "contrast" or "S. & T." method, however, nothing is required except a strip of solio and a thin opaque shield, such as the back of the common cheap style of pocket note-book.

But notwithstanding the extreme simplicity of this method of measuring actinism, it is, in my opinion, the more exact of the two methods, as the eye is more ready to note the difference between two colors as they separate from each other than it is to see the point of equality as two colors approach and pass each other. Besides this it is a well-known fact, and acknowledged by even the actinometer manufacturers that the paper furnished with the meters does not give the standard color after it becomes old or damp, and therefore it never assumes, when in either of those two conditions, the standard color that is painted on the meter for comparison.

On the contrary (although a certain paper should be chosen as a constant for the sake of world-wide agreement), any paper that tints in light *may* be used as an actinometer by the "S. & T." method, as it is always possible to observe the first plain contrast between the color of that paper and the changed color of one end of a strip that has been exposed to the light for a sufficient length of time.

I suggest that solio be accepted universally for a standard measure for the following reasons: It is a paper that can be obtained in every country of the globe. If it becomes a little old or damp its tinting capacity remains practically the same, making it a very good standard for all countries and climates. These constant conditions will make it possible to speak of the "V" power of light in such a way as will later be understood the world over.

It is natural and convenient, in thinking of actinism as a part of the photographic process, to consider a *strong* light as a *quick* one, and of a *weak* light as a *slow* one, and for this reason the numeral expression of actinism as a simple force is best accomplished by expressing what may be properly called its "time value" instead of its real value.

Leaving to one side then the theory of light or actinism, we may approach and understand it in a practical manner by simply observing the time that it requires to do a certain amount of work.

The numeral expression of the actinic value of a certain light at a certain point is the time required (expressed in seconds) to produce on a piece of solio a just plainly perceptible contrast of color.

This contrast must be looked for at the edge of the faded end where it comes in contact with original color of the paper which has been kept covered by a thin opaque paper in close contact. As a sign of actinic value the letter "V" should be written before the numeral.

If the time be, say three seconds, the expression of the value of that light is V_3 , if ten seconds, V_{10} , if 140 seconds, V_{140} , if $\frac{1}{4}$ second, $V_{\frac{1}{4}}$.

It is extremely interesting and profitable to make these measurements in the direct sun light at different hours of the day, on cloudy days, under a full sky, under trees, in the shade of objects, in interiors of rooms at different distances from the window. By this method any intelligent child can learn to think of actinism as an exact, measurable, chemical force, and to express its value with simple figures.

But this value is not the exposure that must be given to photograph an object in that light, and this is where the makers of actinometers lead us astray. This is but the basic factor in the calculation of that exposure, and there are at least fourteen other variable conditions all of which enter into the question of exposure.

Some of these things are of the manipulative process, and once known may be kept practically near the normal point, and thus they may be cancelled from the list of variable conditions. Among these may be mentioned the temperature of the developer and the kind of developer, also the condition of the developer as to its alkalinity.

The question of the speed of plate may also be reduced to a fixed base by using always the same make and brand, as the difference between the speed of different emulsions is negligible in plates or films of any reliable factory. Others of these factors are settled by the selection of the lens and become fixed with any certain lens; as the capacity of the lens glass and the circle of illumination of a lens as it affects the interior illumination of the bellows by reflected light. This last element, however, is always to be considered in using any lens on a broadly extended and slightly contrasted field, more or less according to the circle of illumination of the lens.

Others of these elements are always variable and must each time be taken into account before making an exposure, as:—reflection, the color of the subject, the actinic contrast in different parts of the field, atmosphere, diaphragm, and additional distance of lens from emulsion when photographing near objects.

Although there are so many elements entering into the calculation of exposure, the value of the light falling on the subject is the principal and basic factor, and the reader is encouraged to devote as much time as possible to the measurement of actinism by this method in order to become thoroughly impressed with the fact that aside from all the question of art, light is, in one sense, merely one of the chemicals that enter fundamentally into the simple process of making pictures, and that it is just as wrong to disregard its actinism as to mix a developer by simply estimating the quantity of its ingredients.

If the worker should find that a certain plate factory sensitized plates with a dozen emulsions of different speeds and packed the resulting plates "hit and miss" in boxes to sell, they would at once refuse to buy them, and with much reason. Still fully 99 per cent of workers do the same thing with the other corner of the process, the older workers considering it a sign of weakness to measure light, and the younger ones, not knowing actinism as a simple chemical force, are now aware of the extreme ease with which it may be measured and expressed

THE THIRD CHICAGO PHOTOGRAPHIC SALON, DECEMBER 16, 1902 TO JANUARY 4, 1903

RULES AND REGULATIONS

The announcement of the Third Chicago Photographic Salon, December 16, 1902, to January 4, 1903, has just been received by CAMERA CRAFT. In its makeup the announcement differs from those of previous years, and is upon a much higher plane. The invitation to photographers is as follows:

"All persons interested in pictorial photography as a means and medium of artistic expression or interpretation of Truth, Beauty, Emotion, Sentiment or Ideality are cordially invited to submit works for the judgment of the Jury of Selection under conditions hereinafter set forth."

Under the leading "Salon Ideas and Ideals," is the following brief outline of the policy of the new committee:

"The joint management of the Third Photographic Salon is unanimously agreed to maintain the standard of this annual exhibition on the highest plain of artistic excellence.

"Only such works as give evidence of individual artistic feeling, expressed in accordance with the canons of the fine arts, will be accepted by the Jury of Selection.

"Dexterity of technique in the mechanical and chemical processes of photography will be considered in judging works, but it will be completely subordinated to that composite of imaginative, creative and technical quality which is the essential of the fine arts.

"The Chicago Photographic Salon owes its very existence, as a permanent institution under the patronage of the Art Institute, to the fact that it stands for the modern aspiration toward truly artistic photographic expression, as contra-distinguished from mere technical merit. Artistic merit is the primary consideration of the Salon Management; technical merit is secondary.

"The Photograph which nobly expresses a noble conception of Truth, Beauty of Ideality is a work of the fine arts precisely as if it had been executed by the painter or the etcher or the sculptor in pigments, or lines, or in plastic."

The personnel of the Jury of Selection insures judgment of the works submitted to it on the broadest and most catholic principles of the fine arts.

The Jury of Selection is as follows:

Nominated by The Art Institute of Chicago: Mr. Oliver Dennett Grover, Mr. Ralph Clarkson.

Nominated by The Arts Club of Chicago: Mr. Walter Marshall Clute, Mr. Edgar S. Cameron.

Nominated by the Chicago Society of Amateur Photographers: Mr. Frederic Richardson.

The makeup of the jury is such as to inspire the utmost confidence, the selection of Mr. Clute being especially pleasing to the Photographers of the West.

A Salon Committee has been appointed, and is composed of the following well known members of the Society: George W. Leighton, ex-officio, chairman; William B. Dyer, Charles S. Babcock, Allan R. Gibson, Louis A. Lamb, F. Dundas

Todd, Dr. Frederick Detlefsen, William P. Gunthorp, Robert Craik McLean. E. W. Thomas, secretary; Herman C. Knoke, treasurer.

RULES AND REGULATIONS.

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with the official catalogue of the salon issued by The Art Institute of Chicago, which will be the official notification of acceptance or rejection of the works submitted to the jury of selection.

Exhibitors may submit any number of pictures, but not more than ten pictures by one exhibitor will be hung.

The pictures will be hung in the gallery on a background of dark green burlap. They will be judged by the north light of a single large window.

All pictures submitted must be separately framed (with or without glass) or matted under glass.

The title of each picture and the exhibitor's name and address must be clearly written on the labels provided, which must be attached by the exhibitor to the back of each picture. Nothing may appear on the front of the picture except the title and exhibitor's name.

No accepted pictures may be removed before the close of the exhibition.

Arrangements will be made for the sale of pictures if desired, subject to a commission of fifteen per cent.

All pictures must be forwarded at owner's risk, CARRIAGE PREPAID, and delivered at the Art Institute not later than 5 p. m., Monday, December 1, 1902.

Return charges must be collected by carrier.

All communications and all pictures submitted must be addressed to the Chicago Photographic Salon, Art Institute, Chicago, Illinois, U. S. A.

It is understood, unless expressly forbidden by the exhibitor, that the Art Institute of Chicago and the Chicago Photographic Salon shall have the right to reproduce any accepted picture in the official catalogue, or in a souvenir to be prepared during or after the Salon or in such art and photographic journals as may comply with the regulations made by the Salon Committee.

The management will use all reasonable care to prevent any loss or damage to pictures in its charge, but will not be responsible for any damage.

LOUIS A. LAMB, Chairman.

WM. B. DYER,

E. W. THOMAS,

Committee on Publicity and Promotion.

THE CONVENTION PROGRAM

The souvenir program just issued by the officers of the Photographic Association of America is one of the handsomest publications of the character ever issued by a similar organization. It is liberally illustrated with photogravures from prints by the leading workers in the United States, the cover page bearing a reproduction from a Lytritz portrait by J. C. Strauss.

The program contains an alphabetical list of all the members of the association and is invaluable from this standpoint alone. Those responsible for the production of the publication are to be congratulated upon the care and taste displayed in its make up.

A COMBINATION DEVELOPER

EDWARD H. KEMP

Pyro, the old and reliable re-agent for the development of dry plates, maintains its hold upon the enthusiastic workers in photography, and old time dabblers in the art assure us, and not without reason, that it possesses greater power to produce negatives of various intensities under any condition, than any one of the more modern reducers, also by the addition of bromide it is more easily adapted to control cases of over-exposure, and is equally as serviceable for under exposed plates by increasing the alkali and water.

It has one drawback, however, and that is its faculty to produce stained fingers and general mess, if one is at all sloppy in the work. This one fault has effectually barred most amateurs of today from taking advantage of its other excellent qualities.

Being numbered amongst the lovers of pyro, I found myself many, many times looking ruefully at stained hands and discolored finger nails, after developing a large batch of plates, emphatically declaring that I must adopt in future the modern stainless developers.

Just so sure, however, as an important work came along, just so sure would I find myself returning to my old and reliable pyro. Of course I knew that the good qualities of pyro were all possessed by one or the other of the modern re-agents, but the difficulty lay in finding a convenient way of using them in the dark room so that I could adopt one or the other indiscriminately at a moment's notice. With this end in view let us consider three of the most generally used of the general reducers, hydrochinon, eikonogen and metol. Here we find every quality we could wish for possessed by one or the other. For instance:

Hydrochinon for contrast.

Eikonogen for softness.

Metol for activity.

Therefore it would seem the desiderandum would be to have these reducers prepared in such form that they can be utilized as required to compound any single or combination developer—without the necessity of weighing or other troublesome method. How I finally prepared them to arrive at this end and with my method for their use I will now endeavor to explain.

First of all, I obtained three 16-ounce and one 32-ounce yellow glass bottles, and labeled them as follows:

The three 16-ounce bottles:

HYDRO

A

METOL

A

EIKO

A

The 32-ounce bottle:

ALKALI

B

In compounding the formulas for filling the various bottles, I proceeded as follows:

HYDROCHINON.

Water.....	16 ounces
Sulphite Soda, crys.....	2 ounces
Hydrochinon.....	$\frac{1}{4}$ ounce

METOL.

Water	16 ounces
Metol.....	$\frac{1}{4}$ ounce
Sulphite Soda, crys.....	$2\frac{1}{2}$ ounces

EIKONOGEN.

Water.....	16 ounces
Sulphite Soda, crys.....	1 ounce
Make acid with sulphuric acid and add Eikonogen.....	$\frac{1}{4}$ ounce

ALKALI.

Water.....	32 ounces
Carbonate Potash.....	3 ounces

Water in every case was distilled. These solutions were used as follows:

Hydrochinon Developer: A—1 part; B—1 part; Water—1 part.

Metol Developer: A—1 part; B— $\frac{1}{2}$ part; Water— $1\frac{1}{2}$ parts.

Eikonogen Developer: A—3 parts; B—2 parts; Water—1 part.

With each of these developers I add from 1 to 2 drops of 10% bromide to each ounce.

So much for simple developers. Now if I wish combinations, such as Eiko-Hydro or Metol-Hydro, I proceed as follows: Taking equal parts of Eiko A and Hydro A, viz: $\frac{1}{2}$ -ounce of each solution. I combine them and proceed as for the Hydro developer.

For Metol-Hydro, I take $\frac{1}{3}$ -ounce of Metol solution and $\frac{2}{3}$ -ounce of Hydro solution, combine, and proceed as before for Hydro Developer, not forgetting to add a little bromide.

It will be seen from the foregoing that I have practically any combination that can be wished for, always ready for use and yet, what will especially appeal to the occasional worker. the solutions will keep indefinitely, until combined.

The only drawback that might possibly be brought forward in argument against the use of this method would be that of expense, which may be reduced to a minimum by providing a separate bottle in which to preserve the mixed solutions for future use. In fact a little old developer on hand is almost a necessity, when compensating for over exposure.

Since adopting the foregoing method, I have found it so generally simple and in use, providing as it does for any emergency, or desired result, that I have not had the slightest wish to go back to stain-producing, messy pyro, and I am sure that any of my readers who adopt this plan will find it far ahead of any of the usual methods of procedure.

Just a little bit of string put across a developing tray lengthwise before putting in the plate makes the cheapest and most effective plate lifter possible. A few inches must be left sticking out at each end to get hold of. Lift these alternately, raising the plate half an inch, and you have a rocking apparatus "fit for a king."—W. T. R. in *Photography*.

WHAT A CAMERA CAN BE MADE TO DO

There is a little lady in a family on our visiting list that evidently knows how to make her modest little camera a source of pleasure to her friends as well as to herself. A few weeks ago we received an invitation to an "afternoon tea" that was a gem. She had mounted a "still life" study of a few simple tea-table accessories, a pleasing little picture in itself, in one corner of a large sheet of cardboard and then with a brush put in the desired lettering just below. The whole thing copied and printed on one end of some heavy velox sheets that were trimmed to just fit an ordinary "invitation" envelope when folded once, made a souvenir that would be prized by any one. Calling out there the other evening she showed me several of her essays in similar directions. A menu made in the same manner and printed on common blue paper was most charming in its effect. Even dance programmes for the informal little hops that her "club" indulges in, are not beyond her capabilities as an amateur photographer. Christmas cards, Easter greetings and anything in that line are easily turned out, and you may believe they are valued by the recipients more than the ordinary store article costing ten times as much. I would like to see a few more of the women turning their skill in the same direction. Get a large sheet of white bristol board and mount one of your choice prints in one corner. Take a spray of flowers tied with a ribbon and fasten it to one side. Put on the desired lettering with a little india ink and copy in a soft light. Develop fairly strong and print under a mask. By the way, these Bernham border masks that the dealers are all carrying just now ought to be just the thing for this kind of work.



Courtesy Sunset Magazine

IN THE HIGH SIERRA NEAR LAKE TAHOE

A series of eight prints

BY

ZAIDA BEN YUSUF

EMA SPENCER

MYRA A. WIGGINS

HELEN PLUMMER GATCH

LAURA M. ADAMS



THE ODOR OF POMEGRANATES
by ZAIDA BEN YUSUF



MRS. S. AND FAMILY
by EMA SPENCER



LA VERNE
by MYRA A. WIGGINS



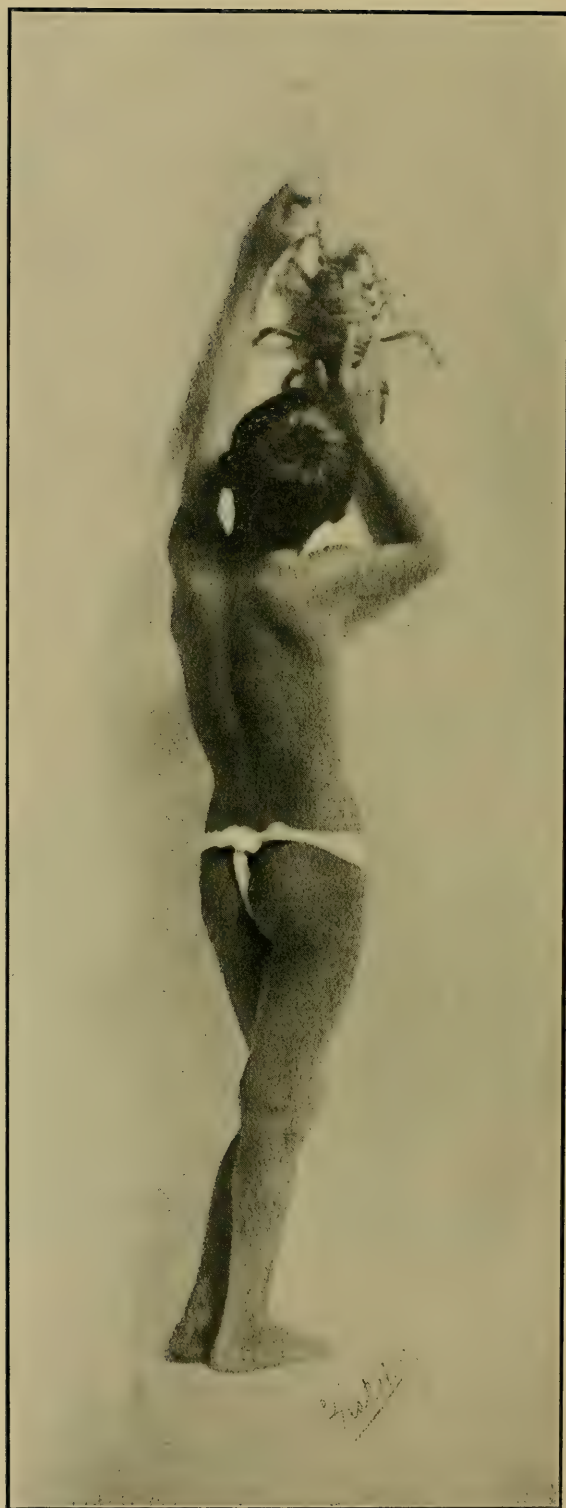
MOTHER AND SON
by HELEN PLUMMER GATCH



TWINS
by LAURA M. ADAMS



BABY
by MARY L. BISBEE



THE DIVER
by CAROLINE HASKINS



PORTRAIT
by ADELAIDE HANSCOM

CAMERA CRAFT

ISSUED MONTHLY BY
THE CAMERA CRAFT PUBLISHING COMPANY
114 GEARY STREET, SAN FRANCISCO

Entered at the Post Office in San Francisco
as second class mail matter

THE PICTURES AND ARTICLES IN THIS NUMBER ARE FULLY PROTECTED.
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CAMERA CRAFT PUBLISHING COMPANY

VOL. V.

SAN FRANCISCO, CALIFORNIA, AUGUST, 1902

No. 4

That the quality of patience is responsible for success in life has been demonstrated so often and with such force that the saying is almost trite, yet its truth cannot be more clearly shown than by a glance at the women photographers of today. Admitted into the proudest ranks of latter-day workers, she has steadily climbed by dint of hard work and patience until she can and is commanding the same attention as her fellows of the sterner sex.

It is pretty well known that for every camera in use there are a dozen in the closet. Nor is the reason for this far to seek. The average amateur buys a camera because he has admired the work of a friend and has been told it is "dead easy," or because his wife is ambitious to immortalize the baby or her pet dog. He finds, alas, that to emulate his friend is, perhaps, not "dead easy" for him, or that baby and the dog do not rise to Olympus on the wings of his genius. A large proportion of camera purchasers never do make any adequate use of their tools, and never will, and on such it is useless to waste regrets. They have their uses; they largely support and make remunerative a business, that, lacking their expenditure, would not possess capital enough to offer to the serious worker the facilities he now enjoys. As to the serious worker, himself, he needs no prompting; whether as an experimentalist in the methods and technique of light drawing, as one devoted to one of the many technical or scientific uses of Photography, or as an artist using the sensitive plate as his tool, he knows that to his work there is no end, and that its demands multiply faster than his means of meeting them. But there is another class. The "one-process men," if we may so term them. To be a scientific photographer needs a thorough knowledge of chemistry and optics, much patience and steady work. To be an artist in Photography requires even more — talent, knowledge of the principals of art, a mastery of technique and untiring patience. Scientific and art Photography are and must be confined to the few. But outside the unintelligent owner of a camera and the serious worker, there is a vast army of intelligent, if mechanical, makers of photographs — workers who can correctly expose, develop and print in at least one

medium. Such men, after they have taken all the ordinary subjects, soon lose interest in their work. Lacking the capacity, knowledge or time for the higher branches of work, they use the camera less and less, and finally forget its existence.

To find a field of interest and usefulness for this vast mass of latent capacity is most desirable. This subject is attracting considerable attention in Europe, and has found there a solution, to a large extent, in what is known as record work; that is, the careful and systematic photographing of old buildings, monuments and landmarks, duplicates of which are most acceptable to local and even national museums. In many cases such work has been confined to a particular class of workers. One well-known worker, for example, concentrating on old baptismal founts, another on gargoyles, and so on. Of course, European workers have great advantages in that their field is so much richer than ours in old relics and associations. Nevertheless, there is a field here. The long-settled eastern and southern States contain many buildings and places that are closely associated with our national origin, life and history that are not devoid of the charm of age. Relics that year by year become less numerous, but records of which will be of the most absorbing interest to our successors a few generations hence. Even our western States have much to offer. A morning paper, in describing the earthquake that occurred in Santa Barbara County, mentioned the fact that one of the most famous adobes of California had been utterly destroyed. We wonder whether any set of photographs exist of the lost structure, showing its external and internal arrangements, height and thickness of walls. The fast disappearing relics of Spanish California are still a fruitful field for such work, and have, in addition, many elements of the picturesque. Work of this kind, to be useful, must be systematic. Every photograph should show the ornamentation of the building, or part of the building, depicted. Some standard of measurement should also be included, and details of ornamentation should receive individual attention. Collections of photographs of Indian workmanship — baskets and pottery — bearing name of maker and tribe, would not be without value. Natural history is another field in which the average amateur may do good and interesting work. This is particularly true in the matter of photographing habits and habitats. The various forms of spider-webs with their makers would in themselves afford a field.

Lastly, it might be well to call attention to the photographing of collections of old china, Chinese and Japanese curios. The prospect of obtaining prints would open the doors to many of our friends' art collections, and give opportunity to the doing of excellent work. Owners of stereoscopic outfits would find this an excellent field. Lastly, we would impress on all such workers the desirability of printing in platinum. Experience in the care of early museum photographs has demonstrated the evanescence of silver prints, and if we are to work for posterity we ought at least to take care that the result will last as long.

There are no boundaries in Photography today — the student and the earnest worker go hand in hand, and while there may be small bickerings in the family circle, the progressive spirit of a new and enlightened Photography will continue to be felt more and more until every fancied line between Art and Photography will be merged.

A PHOTOGRAPHIC DIGEST

BY H. D'ARCY POWER, M. D.

PHOTOGRAPHY OF THE NUDE AT THE SEASHORE OR ON BANKS OF STREAMS

TRANSLATED FROM THE FRENCH OF
"LE PHOTOGRAMME"

Amongst the photographers of our time there seems to be a doubt raised on the subject of knowing if one should encourage or not, the Photography of the nude.

In England, especially, there are few amateurs and professionals who practice this special branch of the art, cultivated with such success in the United States, France, Austria, but above all, in Italy.

Whilst the Italians have an advantage in climate and models, it would seem at first sight that there is no plausible reason why we should not, during the summer months, make some attempts on the seashore or to resorts on rivers, and take for models children wading and bathing.

In like manner the limits of work which form the field of action for instantaneous Photography are not so strictly defined as that which is maintained notably in modern French painting; in the last case the line which forms the limit between an agreeable photograph in good taste and a simple photograph of a nude model is so easily passed that it is practically very nearly impossible to produce an artistic photograph worthy of appearing at an exhibition.

I think, in consequence, that the great obstacle to photographing the nude is that we do not wish to admit that there exists a limit that we cannot pass, and it is from this motive that this special style is not appreciated and cultivated as it truly merits; then those who wish to apply themselves ought to understand that it is preferable to limit their ambition to choosing children as subjects.

As models of this class of Photography one can cite the superb negatives executed by Mr. Will A. Cadby, who has been appreciated in the last exhibitions of London.

The people who have seen these charming proofs can but admire the sincerity and arrangement of the composition. The amateur, who passes a summer not in a watering-place but on a seashore of some little village known only to a few tourists, has

certainly many occasions of photographing groups of children bathing in the sea.

Many amateurs, trying Photography on similar occasions, have averred that the proofs obtained were entirely different from those which, in the reality, had given them the idea for their work.

Working under such conditions is much more difficult than appears at first sight, even if the composition has been long and seriously studied in advance. In a study of the draped figure one does not remark so much nor so quickly that a member is not well placed, whilst in the nude this defect appears singularly exaggerated and destroys all the agreeable effect. It is for this reason that beginners should take infinite precautions, otherwise such little details as they would have considered unworthy their attention will take away all value from the finished print.

Another error which specially concerns nude Photography at the seaside consists in wanting to represent too many figures on one plate. As a rule, content yourself by choosing one or two; this suffices amply. Whilst if there be a number of models it is easy to understand how difficult it is to concentrate the attention of the spectator on a single point. Though a group of nude children, illuminated by fair sunshine, is more interesting than if they were dressed in somber clothes; yet, unless the disposition of this group is excellently arranged, it will result inevitably in a confused impression. In many of the photographs of this style, above all, those taken on river banks, the models lighted by the sun, form against the sky-line the highest points of the horizon; it is for this reason that they should be posed with great care, and that the smallest details referring directly to them ought to be studied specially.

For my part, I have proved that it is easier to photograph a single model.

For the most part, the nude studies of our day constitute in themselves very dull studies. Some of them are excellent, and it is wrong that they give them, as they often do, long and pompous titles; the photographs gain nothing, and the beholder is often disappointed.

There is a double reason which makes the river banks and seashore the best background and setting for the photographing of the nude.

First, the reflection in the water has a considerable effect on improving the picture; in the second place, it is easier to pose the subject because his manner will be absolutely natural and in keeping with the landscape and surroundings.

The reflection produced in the water by a nude model is effective, and aids in a manner to furnish a motive and complete an idea.

Employ, then, if it is possible, the full light of the sun, and even the most brilliant sun to photograph the nude because the limbs will be better modeled and the effect of light and shade will be improved.

As to the models themselves, it is not easy to obtain good ones in England; this is due, I believe, in great part, to an exaggerated modesty.

I had the chance to obtain as a model a Spanish child, and I should acknowledge that he is excellent for every kind of work. If possible, it is evidently preferable to take as a model a child that you know, because they are more supple and docile in posing; but, except in special cases, there are hundreds of little peasants, at the seashore as well as in villages traversed by streams, who are happy to be able, for a small sum, to serve as models.

It is preferable to betake yourself to spots particularly sought by bathers, and after having found and remarked an acceptable model, to ask him if he will be pleased to be photographed.

If you go frequently, carrying your instan-

taneous apparatus, it will happen that some of the little bathers will ask you to photograph them, and however little (favorable) the circumstances may be, or the model desirable, still profit by the occasion, for there are none so easy to use as children who voluntarily offer their services.

It is necessary to act as follows: Decide in your mind the scene that you wish to represent, the idea that you wish to complete; in this way you will not make useless poses.

I have always in my pocket a little notebook in which I design, in a rough way, an idea of the photographic picture; then, when I see in nature any scene which suggests an idea, I sketch in the principal lines. This done, I leave it for months without using, but I have it handy in case of need.

Very often there will come into your mind ideas of pictures, and if you do not note them at once they will escape you and be forgotten in an hour, and almost always without returning.

For the print I find carbon preferable, because the shades are more delicately varied, and the effect of flesh tints given with more vigor than in silver or platinum papers.

Sepia carbon transferred to a cream-tinted paper is the most perfect for rendering the brilliancy of the sun's rays. On paper tinted blue, one can equally produce very beautiful proofs.

I hope that this short article will have the effect of engaging the attention of serious photographers to this special branch, the most beautiful and interesting, perhaps, of photographic art, which is far too little known to be appreciated as it merits.



THE RADIO-ACTIVITY OF PAPER AND CARDBOARD

It is a well known fact that various substances have the power to affect the surface of a dry plate in a manner similar to light—such bodies are said to be radio-active. The limits and conditions of such radio activity are of great practical importance in the storage of dry plates, and their non-recognition has undoubtedly led to untoward results in many instances. Recently F. Martin Duncan made a series of experiments (published in the *British Journal of Photography*) that have shed further light in the matter. This experimenter took slips from various newspapers and journals, also various kinds of card boards, and placed them in contact with sensitive plates in the dark room. "In no case was any pressure employed, the pieces of paper being simply lightly placed on the surface of each plate, and allowed to remain undisturbed in that position. The temperature of the dark room averaged about 55°F., and the plates employed were the Imperial Special Rapid, developed with J. B. Edwards' pyro soda formula. After twenty-four hours exposure to the influence of the strips of paper, the plates were developed, and the following results obtained: *British Journal of Photography*, moderate image of whole surface; *Daily Mail*, strong image of the whole surface; *Evening News*, strong image of whole surface; *Daily Graphic*, no image; *Nature*, faint image of whole surface; *Times*, very faint image of whole surface; *Gardiner's Magazine*, only image of cut edges, and a fold mark on the surface; *Pearson's Magazine*, only image of cut edges and of a scratch made accidentally with the point of the scissors across the surface of the paper; *Journal of Board of Agriculture*, image of cut edges only." The writer states that the materials used in the manufacture of paper and card board are "cotton fibre, esparto, flax, hemp, mechanical wood pulp, straw celluloses, and wood celluloses, various earthy matters, different kinds of size, etc." The nature of the materials used in the manufacture of the papers experimented upon was ascertained, and therefrom Mr. Martin Duncan draws the conclusion that, "while flax, mechanical wood pulp, and size containing resin have a very strong radio-graphic action on the photographic plate, cotton and hemp have no action. Bleaching the radio-active materials tended to somewhat lessen the action, but only in a few cases, after very thorough and prolonged bleach-

ing was the power entirely destroyed." Furthermore, it appeared that cardboards and papers that had a clay surface dressing were not radio-active, but if this dressing were anywhere disturbed by cuts or scratches the activity of the underlying surface immediately produced its effect on the plate, as shown in the record of the cut edges of the three last magazines mentioned above. Evidently there is here a valuable field for study. Why do not some of our hundreds of thousands of amateurs turn their attention to work of this kind. It is not creditable to us that we have so few American experimenters.

EXPOSURE TIME AND PICTURE MAKING

For some time past the *Photogram* has been publishing a most valuable series of articles by "Photometro," on correct exposure. In a recent number attention is drawn to a point that is little considered by the average man, and yet is all important in the work of picture making, namely: that by increasing exposure we can soften the harshness of a too contrasty subject, or by shortening it add strength and vigor to a scene that is unpleasantly flat. I suppose we are all acquainted with the fact as above stated, but how little do we think of it in actual field work. Looked at in this way, exposure is only correct when it gives us the negative we desire. Such a view alters our relation to the exposure meter. That useful instrument simply gives us the correct exposure for the gradation of light and shade as we see them, it rests with us whether in accordance with a correct artistic perception, we accept them as they are, or increase or lower contrasts by the diminishing or lengthening the normal time of exposure. Many workers do something of this kind by under or over developing the plate, but undoubtedly the time of exposure affords a better means of control. Let me suggest as a useful lesson, to all who have not tried, that the reader expose three plates upon some chosen scene, one at the normal time as indicated by an exposure meter, one at a fourth thereof, and the other at four times the normal. The resulting prints will be an object lesson he will not easily forget.

THE WOREL PROCESS OF COLOR PHOTOGRAPHY

When so many workers in this field are before the public, it is interesting to describe the method of Herr Worel, which is based upon the principle of bleaching out from a mixture of color the tints not contained in the ray of monochromatic light that is directed

on the mixture. The following is a description of the process taken by the *British Journal of Photography* from the journal of the K. K., Akademie Wissenschaften:

In January this year Dr. Neuhauss published in the *Photographische Rundschau* an account of his researches in the same direction, a translation of which has already appeared in these columns.

The theory of these processes is that light of any particular color causes all the dyes to fade except that of the same color. For instance, assuming that we have a mixture of red, yellow and blue dyes, red light causes the yellow and blue to fade, blue light would bleach yellow and red, and so on.

Herr Worel gave a description of his process to the K. K. Akademie der Wissenschaften (Akad. Anzeiger, No. 8), and exhibited specimens, and the following extract gives a concise sketch of the process:

Pure paper free from wood pulp, is immersed in a bath of alcoholic solutions of primrose, Victoria blue, cyanide, curcumin, and auramin, with the addition of anethol. The proof as to the correct composition of the bath is shown by exposing a strip of the paper under strips of yellow, red, green and blue glass, and if correct, an exposure to direct sunlight will give all the colors.

The bath must have a temperature of 20 deg. C. The paper should be hung up to dry at the same temperature.

As soon as surface is dry, it must be exposed either under a colored glass picture or a transfer or colored transparency, in the printing frame. Any loss of time lowers the light sensitiveness of the paper, and so much so that after the lapse of about an hour the paper becomes considerably insensitive to light.

The exposure should be made in absolutely clear sunlight falling direct on the frame, and the duration of the same depends upon the transparency of the subject, the strength, and the proportion of anethol in the same, and the intensity of the sunlight. I have, under, favorable conditions, obtained good prints even in five minutes.

If the picture appears clear in all its colors, then the exposure is stopped, and the print is placed in pure benzine for about an hour, and dried at 40 deg. C. If there is still any smell of anethol after this, the benzine bath must be repeated. Any trace of anethol lessens the permanency of the prints.

The print is now placed in a concentrated solution of sulphate of copper, and left therein

for two or three hours, then washed and dried, and then mounted.

Direct sunlight soon bleaches such prints, indirect diffused light in some weeks; if only exposed to light occasionally, or kept in a portfolio, they remain for a year unchanged.

By the use of less concentrated baths, and the addition of a good quantity of anethol, pictures of artificial flowers were made with a rapid objective in the camera.

In direct sunlight I exposed about two hours. The colors appeared weak, but were distinctly recognizable up to green.

Obviously, the process can be used on collodian or gelatine coated glass instead of paper, but the results are not so good as on paper.

QUICK METHOD OF TESTING RAPIDITY OF LENSES

A simple, new, and most valuable method of determining the f. value of a lens has recently been described by Dr. Drysdale at the meeting of the London Optical Society. I cannot do better than reproduce the description as given in *Photography*, which after pointing out that the f. value is obtained by dividing the focal length of the lens by the working aperture of the same proceeds: "We have to remember that working aperture is defined as the diameter of the largest beam of parallel light which can pass through the lens and stop. If the stop is placed outside, as before a single landscape lens, all we need to do is to carefully measure its diameter, which we may divide into the equivalent or principal focal length. But in the case of lens combinations, where one element is interposed in the point, this is no longer the case, for here (owing to the light being conveyed by the front lens before reaching the stop) the parallel beam is larger than the stop itself.

The general practice to measure this is to focus upon the ground glass a very distant object. The screen is then removed from the camera, and replaced by a tin plate having a central pinhole. On allowing light from a lamp to traverse the pinhole and to pass back through the lens, a parallel beam emerges from the front of the lens. By holding the ground glass screen in the path of this beam, its diameter can be measured.

Dr. Drysdale pointed out that since the aperture of a stop is really defined by the angle of the cone which the light makes on reaching the screen, it follows that the ratio of the diameter of the cone of rays at any point to the distance of that point from the

focus is the same as the ratio of the diameter of the aperture to the focus. Therefore it is practicable to ascertain the working aperture of an objective without the use of any special screen, and without knowing either the equivalent focal length of the lens or the diameter of the stop employed.

All that need be done is to focus sharply on the screen some distant bright point of light, and then move the screen in until the disc of diffused light assumes a definite diameter—say 1 inch. The distance through which the screen has been moved will then give the value of the stop without any calculation whatever. For example, if after focusing a distant lamp it is found that pushing in the screen 4 inches causes the disc to expand to 1 inch in diameter, the aperture is f-4. If pushing in the camera 2 inches gives a 1-10 inch disc, the stop is f-20, and so on. The most remarkable point of all about Dr. Drysdale's interesting device is that none seems to have hit upon it before.

Photographers, therefore, have cause to be thankful for the discovery of a new and surpassingly easy method of determining the values of stops of any lens, whether single or compound—one which can be performed in a very few minutes, and one which does not

necessitate the measurement of either the focus of the lens, or the diameter of the opening of the stop."

EFFECT OF HEAT AND CONCENTRATION ON DEVELOPMENT TIME

That the rapidity of development can be increased by using strong developer and high temperature is well known. The extent to which this occurs has recently been the subject of exact experimentation by Von Hull, and the following table from Eder's Jahrbuch is very suggestive:

CONCENTRATION.

Ferris Oxalate	Time of Development
3 %	20 seconds
2 %	29 seconds
1 %	47 seconds
0.5 %	85 seconds

TEMPERATURE.

Glycin at 71°F	60 seconds
Glycin at 62°F	104 seconds
Glycin at 53°F	138 seconds
Amidol at 61°F	22 seconds
Amidol at 46°F	48 seconds
Amidol at 30°F	70 seconds

It thus appears that trebling the concentration about halves the time, and raising the temperature twenty degrees has about the same effect.

THE AMATEUR AND HIS TROUBLES

BY FAYETTE J. CLUTE

A HINT FOR THE LADIES

I received a few pieces of this ready sensitized blue print cloth the other day with the request that I print them under some of my negatives and mail them back well protected from light if I had not the time to give them the simple washing water that they required. As the request came from one of the fair sex, I simply had to get busy and do as she said. I have just found out that this young lady has, by this method, secured enough material to make several sofa pillows that are to be something grand, to use her own words. That they will be interesting, containing, as they will, views from all over the country, there can be no doubt. Just to get even with the rest of the male amateurs, I am trying to show the lady members what a good scheme it is to secure a most valuable addition to their

collection of trophies. The cloth does not cost much, and well wrapped in yellow paper it can be sent anywhere through the mail.

KEEPING QUALITY OF PYRO SOLUTION

A Virginia correspondent asks if pyro developer deteriorates with age. It certainly does lose strength from the moment the solution is made up, but if distilled water is used, air excluded as much as possible, and a good preservative employed, the diminution of developing power will be so small that it can be ignored in practice. Water that has been boiled will answer nearly as well as the distilled article. The most careful workers employ pyro by adding it to the developer at the time of using, measuring it out dry with a common wooden mustard spoon whittled down so that it just holds a certain number of

grains. It is claimed that this method gives better results than the use of that which has been previously dissolved. The color of the solution is a good indication of its strength. Up to a light brown it works fairly well, while a solution that has become quite dark in color will be found to have become almost worthless, yet capable of some developing action on a well timed plate.

RECOVERING FOGGED PLATES

A reader in Ohio writes me, saying that he has seen the formula several times, and yet, just when he wants to use it it is not to be found. I am a little averse to rehashing in this department these old bits that go round the photographic magazines so often, but as my correspondent failed to give his address, I must use the space this time. I have never tried it myself, and for that reason would like to have my correspondent report his results. There is little doubt but what the treatment will make the plate somewhat slower. Here is the formula:

Chromic acid.....30 grains
Bromide of potassium.....60 grains
Water.....to ounces

Immerse the plate for five minutes, wash thoroughly and then dry. Of course this must all be done in the dark room.

THE PASSING OF A WELL KNOWN AMATEUR

Knowing as I do that our subscription list contains the names of a large percentage of the membership of the world wide Photo Exchange, I cannot neglect the opportunity of saying a few words as a tribute to the zeal and enterprise displayed by the founder of that society, who passed away June 14th, at his home in Akron, Ohio. That the amateurs of the country, particularly those interested in the exchanging of prints, has lost a valued friend, is fully recognized. Those who were so fortunate as to be numbered amongst his personal friends and correspondents feel that they have lost still more than the word friend can imply. His keen enjoyment of the work of advancing the interest of the society—the pioneer in its line, founded in February, 1898—made the arduous duties attached to the management a pleasure to him, where one of less unselfish interest would have found but the hardest kind of work. Anything in the shape of words that I might string together in praise of the many good qualities of heart and mind which Mr. Archibald possessed would fail in its intent. We have lost a friend.

STAINS ON DEVELOPING PAPER

Mr. Horace W. Gillett, of Penn Yan, N. Y., writes us as follows: "A few days ago I undertook to clear off the image on a batch of stained prints, on Cyco, Velox, and the like, that I had been saving up in order to use for blue-print paper, according to your advice in one of the former issues. I placed them in a weak solution of Farmer's reducer, as advised. To my surprise, I found that the yellow stains that I could get off in no other way, entirely disappeared in this weak solution before the image was in the least reduced. It was then tried on some old prints, relics of my first attempts with Vinco, Veda and the like, with equally satisfactory results. One in particular that had remained in the developer over half an hour as an experiment, the whites of which were as yellow as gold, came out of the bath as clear as could be wished with only the least perceptible amount of reduction of the picture itself. Of course a more prolonged treatment was required. There is a mottled red stain that one sometimes gets, owing to the developer being allowed to oxidize through the print not being kept in motion after going into the fixing bath, that the reducer will not touch. The brownish yellow ones that are just bad enough to spoil an otherwise good print, and which we all get so often, are easily removed by this method. Used much stronger, of course the reducer will remove the image and allow the paper being used for blue-prints as you suggested." This is a hint that will save all of my readers a good many sheets of paper, not to mention time employed in making new prints. A thorough washing must always follow the use of this reducer to remove the hypo which it contains.

CHILD PORTRAITURE

This summer we will all of us do more or less hard work trying to obtain pictures of our child friends. Visions of charming poses and characteristic expressions that will be of untold value in years to come float before our eyes. As a mind picture it is all right, but it is entirely too prone to blind us to the fact that we are going about it in the wrong way. Almost the greatest horror to me that exists in the old family photograph album is a portrait of myself, taken a good many years ago, before I had assumed the dignity of long trousers. With my hands and face washed until they shone, my hair plastered down and a stiff linen collar torturing my neck, I looked the picture of resentment, sorrow, fear and

defiance all rolled into one. As a representation of what I really looked like at that period in my career it is a decided failure. The man who made it was not to blame perhaps, but we who should know better have not the same excuse. The average child is not a little Lord Fauntleroy and resents being photographed in that way. We know them and learn to love them as we see them every day. It is in this condition that their every pose and happy expression, so suggestive of childhood's freedom from care, endears them to us. Let our portrayal of them partake of this same artlessness. They will thank us for it in years to come. That weekly torture of Sunday stiffness is not the typical scene that memory of childhood's happy days will call up in future years, so why should we seek to perpetrate it? I have even seen the best of genre work made defective by this desire of some doting parent to have the child "presentable" or the negligence of the photographer in observing the incongruity, for instance, of a little miss going to the well for a pitcher of water in a stiffly starched "bib and tucker," with hair neatly plastered down and braided. Give the children a chance to be natural, and, should evidence of a little dirt or disorder creep in, remember that we are all more or less "of the earth earthy."

PRINTING UNDER TISSUE PAPER

In one of my recent talks I tried to impress upon you the desirability of printing all except the strongest negatives under one or more thicknesses of tissue paper. Since then there has come to my notice, in fact, I have used with great satisfaction, some smooth surfaced, structureless, parchment-like tissue, sold under the name of the "E. W. N." Retarding Sheets. E. W. Newcomb, Bible House, N. Y., is responsible for their marketing. I do not like to use this department to advertise articles, but in this case their sale is a matter of convenience, and should be noted. They are not patented, and if you buy enough of it the paper dealers in the large cities could no doubt supply you cheaper, considering the larger supply as well as outlay. These sheets come in the shape of a generous supply of 8x10 size in white, blue, pink and yellow. The latter colors being special tints that allow of the retarding of the printing from five to fifty times the normal. In using white tissue, if enough is put on to retard printing to any great extent, it is impossible to see the negative beneath, while with even the most non-actinic of these sheets

the use of small pieces of the same material to locally retard certain portions is rendered easy by the translucency of the tissue. Again, it is well known that the particular silver salt in our printing paper that give the darker tones, is acted upon more strongly by the red and yellow rays, and hence, in using these retarders we get a nearer approach to purples than the reddish browns so generally produced when thin negatives are printed unprotected or with white tissue alone as a shield.

ENLARGEMENTS ON PRINTING-OUT PAPER

The old professional told me the other day that he had often made enlargements on albumen paper by first immersing it for two minutes in a ten per cent solution of bromide of potassium. This converts the sensitive salts into bromide of silver, and allows of the regular bromide-paper mode of procedure being carried out. He said the necessary exposure was about five times that required for regular bromide paper. I have not had the time to try the process on our later-day gelatine and-collodion chloride papers, but it would no doubt work equally as well. Should any of my readers experiment with it, I would be pleased to learn of their results.

ANENT THE FIXING BATH

There are two or three peculiarities concerning the action of our old friend hypo that the average amateur would do well to bear in mind. A fresh solution has so little of that softening, decomposing effect upon the film that we look for this warm weather, that when one changes from an old bath that has been used for some time, to a freshly compounded one, he really imagines that the new bath has a hardening effect. If your plates come out of the fixing bath with a soft, mushy film, try mixing up a new one. When you mix up a fresh solution, notice how cold it becomes when the hypo dissolves. You must allow it to become of the same temperature as the developer and wash water before using, or you will perhaps have blisters. A cold bath also works slower. A strong bath will also be slow. Otherwise it matters little just how strong the bath is used. Another thing generally overlooked is the fact that the plate is not fixed, in the sense that the unreduced silver is removable from the film, when the white appearance has all left the glass side of the plate. The first stage of fixation is the changing of this silver salt to an insoluble but transparent chemical. Further action of the hypo is required to render it soluble so

that the washing may remove it. Try an experiment: Put a plate, exposed or otherwise, developed or not, into your fixing bath. Watch it closely. You will find that there is some certain spot that gives up its white color last. Mark this spot by a scratch on the glass side. Just as soon as the white has all left the plate, give it a good washing. After drying, subject the negative to sunlight for several hours. I think you will find a stain where this last spot to fix was located. And yet it was left in the hypo until all the white was removed from the film. Another thing, just try to get rid of this stain.

SOMETHING ABOUT CLOUDS

One of my amateur friends had a tale of woe to pour into my ear the other evening, and it was all about clouds. He had studied the data accompanying such cloud studies as had come to his notice in the various photographic publications, in hopes of securing some well-defined basis upon which to work, but had failed. There were as many ways of going about it as there were workers represented. Good results seemed to have been obtained with all kinds of exposures, stops and plates. My correspondent could only occasionally obtain poor results by using isochromatic plates and a color screen. Even then his results were not the soft yet bold masses he admired in the work of others. His were the sharp, cotton-wooly kind of clouds that looked as if they were within reach of the hand of a person standing in the foreground of the picture. He had been trying to photograph the white variety of clouds on a blue sky. I explained to him that what he wanted was darker clouds, ones that seemed to the eye to contrast less with the blue sky than the white kind he had been trying to photograph. As he had not been a very close observer he failed to understand that there were clouds that were much darker in color through being heavier with moisture and consequently less transparent. As a last resort I told him I would ring him up and tell him when there were some good ones for photographic purposes in the sky. The next day he called me up and asked if I had not forgotten my promise. There were some fine large white masses in the sky, but the blue background would have photographed equally as white. I told him so. The fourth day there were darker specimens, and I telephoned him to study them and note the difference between them and the ones he had called my attention to a few days before.

Despite his own conviction that there was a lack of contrast, he exposed a couple of plates with the best of results. He now claims it is not the lens, plate or stop, but the having of the right kind of clouds that does the business.

FOCUSING ON THE CENTER OF THE GROUND GLASS

A few months ago I picked up one of the original long-focus Premos, a 5 x 7, at a bargain. I have loaned it out a few times, but have never used it myself. I loaned it to a friend, a "Brownie" convert to the ranks, and when he returned it, after using it on his two weeks' vacation, he reported that the lens was a very poor one. I asked to see some of his negatives, and inquired why he had focused on the distance instead of on some object nearer forward. Come to find out, he knew all about focusing. He even showed me the clipping from which he had gleaned his information. It read: "Focus with the lens wide open and get the objects in the center of the plate as sharp as desired. Then stop down to F-16. Expose accordingly and your resulting picture will be, everything else being carried out correctly, as good a picture as your camera will produce." My friend had been making chiefly road scenes, creek views and the like, in which that part of the view falling on the center of the ground glass was generally distant vistas from five hundred feet to five miles away. One can easily imagine what his foregrounds, as well as his creek banks and roadsides, looked like with the focus on the distance in the center of the plate. In focusing with the largest stop it is well to remember also that inserting a smaller diaphragm sharpens the definition, approximately, twice as far to the rear of the point originally focused upon as it does in front of that point. The major portion of the landscape work turned out by the amateur is far too sharp in the distance. Unless there is some object therein that would be too noticeable out of focus, even the middle distance would be better if left a little lacking in sharp definition.

RODINAL FOR BROMIDE PAPER

One of my friends who is justifiably partial to bromide paper, even for contact prints, showed me some of his work several months ago. Learning that he used rodinal for their development, I made a mental resolve to try it myself the next time I made some enlargements. The other evening the opportunity

came, and as I had no developer mixed up I congratulated myself that I only had to buy a bottle of the rodinal and dilute it with water to suit. Well, I obtained beautiful pearly gray tones that suited very nicely some of the subjects, but there were others that were not so well rendered in this tone. As some of my friend's work was inclined to a good black, I made it a point to tell him of my failure the next time I saw him. He explained that it was his practice to add, when good blacks were desired, to each ounce of the developer a few drops of the following:

Hydroquinone.....	80 grains
Sulphite of soda.....	1 ounce
Bromide of potassium	15 grains
Water.....	10 ounces

I think I will try this in connection with the remainder of my rodinal on the next lot of enlargements I get out.

PLATINUM TONES ON SOLIO PAPER

A correspondent in Illinois writes me that he would like to have a formula for solio toning that will give him that near approach to platinum tones which he has seen on some Chicago work. I have looked over several old files and found the following, which is quite promising:

Citric acid	80 grains
Chloride of sodium.....	80 grains
Water	40 ounces
Potassium chloroplatinite.....	10 grains

Wash the prints for ten minutes before toning, and again rinse thoroughly before placing in the fixing bath.

ENAMELING PRINTS

There are very few of the ordinary everyday processes of popular Photography which appear to present so many difficulties to the tyro as does that of glazing or enameling his prints. Nearly one-third of the total number of questions that we have submitted to us deal with this subject, and in nearly every case the same defect is encountered, namely, the sticking of the prints to some part or other of the surface upon which they are dried. That being so, it would perhaps not be time altogether wasted if we ran over the conditions necessary to secure success, and the methods by which those conditions can be assured.

The commonest cause of prints sticking lies in the surface upon which they are squeegeed not being perfectly clean. If glass, ferrotype or celluloid is employed, it is best to go over it with a nail-brush and some yellow soap and water. The brush should not be so stiff

as to scratch the comparatively soft surface of the two last-named supports, but, apart from precautions to prevent this, it should be freely used. When sufficiently scrubbed, the whole of the soap must be rinsed off by using plenty of clean water and a clean rag. Mere rinsing without rubbing, it is well to remember, does not remove within a reasonable time the last traces, even of a soluble substance, from a smooth surface such as glass. There must be a certain quantity of friction employed as well, and this should be done with varnish, and it will be well, as a further protection, to give it a coating of collodion before the varnish is applied. The negative is now flowed over, as collodion is applied, with the bichromate mixture, in a room with a subdued light, drained and dried, either before a fire or over a spirit lamp. The heat should first be applied to the corner opposite to that from which the mixture was drained off, so that an even coating may be secured. The plate, still warm, is now laid, face downward, on another warm glass and exposed from the back, to daylight, for a few minutes. It is then taken into the dark room and warmed over the spirit lamp. This does away with any moisture that may have gathered. When the plate has cooled and rested a minute or two, a little powder of any color that may be desired is applied, sparingly at first, so "as to feel one's way," with a camel-hair brush with a somewhat swishing motion. Whatever powder be selected, it is essential that it be in the finest possible state of division. If plumbago be used, and on the whole that is the best for our present purpose, that known as electrotyping plumbago should be employed. In a few minutes, according to the hygroscopic condition of the atmosphere, the powder will begin to take where the denser portions of the negative have protected the film from light, and afterwards to the less denser parts in proportion; while, if the exposure has been approximately correctly timed, none at all will attach itself to the deepest shadow of the negative.

Should it be found that after a few minutes the powder does not "take," simply brush it off and allow the plate to rest for a few moments longer to take up more moisture from the atmosphere, and then reapply the powder. If then it does not adhere, it is probable that the exposure to light has been too long. The plate, however, may still be utilized by putting it for a short time in a damp cellar, or by gently breathing upon it,



SUNSET ON AUCKLAND HARBOR
by C. J. ELLERBECK, N. Z.

though the former is the preferable procedure.

If, on the other hand, it is found that the powder takes too freely, it shows that the action of light was insufficient or that too much of the hygroscopic material was used in the mixture for the existing state of the atmosphere. In this case, the plate must be at once warmed and the development recommenced directly it has cooled. In abnormally dry weather a mere trace of glycerine may, esom time, I opened the window of the lantern and let the light of the gas burner fall directly on the plate, and waited for it to fog, but after a few seconds the positive image that had refused to appear in the red light slowly came into view. Then it slowly disappeared again, and a negative image appeared in its place. This, when fairly strong, I fixed and it yielded a negative like the one from which it was printed, except that it was a little foggy and somewhat weaker. This case of reversal seems to differ from those previously referred to, in the fact that the exposure given was a normal one, and not the usual great over-exposure. The modifying factor would seem to have been the deficiency of alkali in the developer. I report the experiment, as it may lead some who are interested in work of this kind to examine further into the action of variously compounded developers on the property of reversal.

DUSTING ON

The use of what is known as the "Dusting-on Process" has recently been advocated by the *British Journal of Photography*. So valuable is it likely to be, in many cases, that we give working details from the above source. The "Dusting-on Process" is well-known in process work, and is dependent on the fact that if gum, dextrine, honey and many other sticky and also hygroscopic substances are mixed with a bichromate, and then exposed to light, the sticky quality becomes lost. If exposed under a negative it will be lost proportionately to the light that reaches it, so that if after such exposure fine rubbed over the exposed surface, the powder will adhere to the high-lights but not to the shadows. It will be readily perceived how this may be applied to increasing the density of the high-lights. The working details are as follows: A solution is made of dextrine, one-half ounce; grape sugar, one-half ounce; ammonia bichromate, one-half ounce; water, ten ounces.

It is convenient to mix the dextrine and

grape sugar in half the water, and the bichromate in the other half and then keep the two solutions separate as stock solutions. They are then mixed in equal proportions, as required for use, and filtered. After keeping a week or so, the dextrine and glucose solution may show a sign of mouldiness on the surface unless an antiseptic has been added, but this appears to do no harm.

THE TROUBLES OF LIFE

The following letter is self-explanatory:

ROCHESTER OPTICAL AND CAMERA CO.

DEAR SIRS:—Yours received. Not for a moment am I making any complaint against your cameras. I answered your communication and am sorry that you should construe as complaint. Your machine is all right. I have seen good work done by it, fine work. I hardly think I am cut the proper pattern for a photographer. I think I am a frost—not a light frost—the whole ice wagon starting. The first shot I attempted was of my mare, on a nice, sunny Sunday. I drove mare into a fine sunny position, got a line on her through finder, and squeezed bulb for further orders. I arrive home and develop (?) plate. Do I get results? Well, not to any extent, thank you kindly. My wife then springs the happy thought that I had failed to remove cover from holder. She suggested that I was a lobster, and hurt my feelings some little. Next day I try again—a dog this time. He was asleep in the sun—still life, if you please, and a big fine terrier; anyone should have hit him. Again I fall over myself in that damn dark bathroom and again I develop nit. I sure removed cover this time, and had a crazy idea that should have "done business." I take camera to the gentlemanly salesman on Nassau Street who separated me from my currency. He looks over for the cause of trouble, and says: "Why, you bally fool, your diaphragm is too small." Well, say, I didn't know a diaphragm from a fried egg. It was a dark secret. He showed me the slide and I got out the real thing—a picture-taker for fair. Its twenty to one, or write your own ticket, that something shows now. Why prolong the sad story? I have tried all kinds of exposures, "T, I and B" (what does "B" mean anyhow?). I have spoiled I guess twenty-five or thirty plates, and the scene of destruction in the black hole has been something fierce. I wrecked a lamp, two graduating glasses, and my temper. My

wife begs me, if I love her as I said I would, for heaven's sake to "take something." I took a drink, but she is not satisfied. I shall sure take something very shortly. I shall open back window of my house, take a long

run and see if camera will go over back fence. I hope she do. Finders keepers.

Very truly yours,

FRANCIS A. RICE.

327 State St., Brooklyn, N. Y., May 23, 1902.

NOTES AND COMMENT

A NEW SECRETARY

This is to notify you that, owing to ill health, Mr. F. C. Plummer, secretary-treasurer elect, has been compelled to surrender the work of that office, and has tendered his resignation. We regret exceedingly that Mr. Plummer has been thus afflicted, and sincerely trust that by next year he may be able to return to active service. In view of the above facts I have this day appointed Mr. Charles Butterworth, our former secretary-treasurer, to fill the unexpired term. In this appointment we secure the services of a man who has had much experience in this work, especially with this association. We therefore have no fears that the work will suffer, but on the contrary everything will move along to a successful convention this coming September.

Send all money due the association direct to Charles Butterworth, 782 Kelly Street, Portland, Ore., who will send receipt for same.

Respectfully,

A. L. JACKSON,
President.

THE BAUSCH & LOMB COMPETITION

Last month we had the pleasure of announcing to our readers the inauguration of a photographic prize competition in which awards to the amount of \$3,000 were offered by the Bausch & Lomb Optical Co., Rochester, N. Y., for pictures made with their lenses and shutters. We would add in further explanation of this announcement that the competition is designed more especially to bring together as large a selection as possible of the highest grade of modern photographic work. By high grade is meant highest quality of work of which the various grades of lenses are capable. The competition provides for classes in which the work of every kind of lens, from the simplest single achromatic to the most complex anastigmat,

can be entered, and subdivides these classes into groups which will give every photographer an opportunity to enter work in which he has specialized, such as landscape, portraiture, genre, instantaneous, architecture, telephoto, etc.

A booklet has been prepared giving the various classes and classifications, together with a list of awards. Copy will be sent free to all interested.

Announcement has just been made of the marriage of Miss Laura M. Adams to Mr. Sidney Armer, in July.

The St. Louis & Canadian Photographer has reduced its subscription price to \$2.00 per year (six months \$1.50) in all cases where subscription is paid in advance.

The first of a series of individual exhibits is now upon the walls of the California Camera Club. Professor O. V. Lange is the first exhibitor, and his representation, comprising some twenty-five pictures, set a standard that will tax the Print Committee to maintain.

Through an unintentional error the name of Dr. C. George Bull, of Alameda, was omitted from the list of those receiving diplomas at the recent Los Angeles exhibition, and we hasten to make the correction and to make public our regret at the seeming lack of care in the make up of the list.

The G. Cramer Dry Plate Company (St. Louis) has just issued an interesting booklet devoted to a practical discussion on the technique of skiography or X-ray photography. The author, Mihran K. Kassabian, M. D., enters fully into the details of the work, and it will well repay all interested in this line to send for a copy, which is free.

The following letter from the Century

Camera Company, of Rochester, N. Y., is self-explanatory:

ROCHESTER, N. Y., June 21, 1902.

Camera Craft Publishing Company, San Francisco, Cal.:

GENTLEMEN:—We are arranging to publish a beautiful album containing photographs made with the Century camera.

We desire to include nothing but pictures by Century amateur photographers, as we wish to eliminate all doubt that a professional has been engaged to make our sample pictures.

Believing that users of Century cameras will be glad of an opportunity to have their work published, we ask that you announce in your columns that we will send copy of our album free of charge to each amateur who will grant us the temporary loan of ten good negatives made with the Century camera.

We will guarantee to return all negatives in as good condition as when received, and we will also furnish gratis a reasonable number of prints in the event they are desired.

CENTURY CAMERA CO.,

G. E. MOSHER,
Secretary.

James H. Smith & Co. of Chicago, suffered a loss of \$20,000 by fire, on July 6th. This includes the damage to machinery which was partly insured.

This is surely a progressive age. Now comes a little device which can be carried conveniently in ones pocket, which the manufacturers term, a "photometer." This machine consists of a small leather-covered box, $2\frac{1}{2} \times 1 \times 2$ inches, and mounted on one end is a very neat, little round brass case containing a dial with figures indicating the degrees of light to be measured. There is a tiny screen in the center of this case which receives the rays of light and under this screen are means for neutralizing these rays, which makes it possible to read on the dial the exact power of the light in degrees the same as a thermometer registers the degrees of heat. There is also mounted on the side of the little leather case a scale giving the different stops and a table of figures giving time of exposure required for each degree of light indicated on the dial, stop considered, of course. For example: we find we have 70 degrees of light and we want to use stop f-16, the scale would show $\frac{1}{2}$ second. There is no fading of paper, it registers instantly and is so sensitive that one can commence at the window, and as he recedes the dial shows a different degree of light at each foot. We will describe the above in detail in our next issue.

CONVENTION DATES

Photographers' Association of Missouri, at Pertle Springs, Warrensburg, September 10, 11 and 12, 1902. J. G. Stone, secretary.

Photographers' Association of America, at Buffalo, August 5, 6, 7 and 8, 1902. C. R. Reeves, Anderson, Ind.

Photographers' Association of New England, Boston, Mass., August 20, 21 and 22, 1902.

Photographers' Association of Ohio and Michigan, at Cleveland, Ohio, August 27, 28 and 29, 1902.

The Texas Photographers' Association, at San Antonio, September 30, October 1 and 2, 1902. M. L. Sanders, secretary, Waco, Texas.

Photographers' Association of Indiana, at Lake Winona, 1902.

The Photographers' Association of Virginia and North Carolina, at Danville, 1902. C. W. Enstler, secretary, Danville, Va.

Northwestern Photographers' Association, at Minneapolis, 1902.

Photographers' Association of Kansas, at Emporia, 1902. P. H. Bauer, secretary, Leavenworth, Kas.

The Photographers' Association of Oklahoma and Indian Territory, at Oklahoma City, 1902.

Photographers' Association of the Pacific Northwest, at Tacoma, September 17, 18, 19 and 20, 1902. C. F. Plummer, secretary, Seattle, Wash.

The Royal Photographic Society of Great Britain—forty-seventh annual exhibition—29th September to 4th November, 1902, at new gallery, 121 Regent street, London, W.



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HERF & FRERICH'S CHEMICAL CO., St. Louis, Mo.

MALLINCKRODT CHEMICAL WORKS, St. Louis, Mo.

GEORGE MURPHY, 57 East 9th Street, New York



CONTENTS, SEPTEMBER, 1902

COVER MINIATURE—C. A. Gwynn									
GEORGE EASTMAN—Dudley Hoyt									FRONTISPIECE
BUSINESS CONDITIONS IN THE PHOTOGRAPHIC WORLD—Carl E. Ackerman									173
PHOTOGRAPHING A HUMMING BIRD—Maurice D. Brown, M. D.									174
A CONVENTION OF PROGRESS—Carl E. Ackerman									175
PAPA CRAMER AND HIS FAMILY									176
SOME GEMS OF THOUGHT FROM MASTER MINDS AT THE NATIONAL CONVENTION, 1902									178
GOOD BUSINESS METHODS FOR PHOTOGRAPHERS—C. M. Hayes									184
THE IDIOSYNCRASIES OF THE CUSTOMER—Morris Burk Parkinson									188
SPIDER WEBS—L. J. Lathwesen									197
EDITORIAL									199
THE EXHIBITORS AT THE BUFFALO CONVENTION									200
THE AMATEUR AND HIS TROUBLES—Fayette J. Clute									205
A PHOTOGRAPHIC DIGEST—H. D'Arcy Power, M. D.									207



MR. GEORGE EASTMAN
PORTRAIT
by DUDLEY HOYT, ROCHESTER

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. V.

SAN FRANCISCO, CALIFORNIA, SEPTEMBER, 1902

No. 5

BUSINESS CONDITIONS IN THE PHOTOGRAPHIC WORLD—A TIMELY INTERVIEW WITH MR. GEORGE EASTMAN OF THE EASTMAN KODAK COMPANY

BY CARL E. ACKERMAN

"Photography," said Mr. Eastman, "has never amounted to a fad. People have bought cameras because they wanted the pictures. Therefore, when there is any marked increase in the sale of photographic instruments or material it has been coincident with the introduction of a new camera or process which simplifies picture making. During the past year or two there have been no radical improvements in photographic apparatus, and consequently no material increase in the volume of trade. I mean that the demand for cameras and material did not show the increase that it did several years ago. The travelers are using just as much material as they ever did, and more. That is evinced by our sale of film, which has steadily increased. Whenever the manufacturer has been able to decrease the necessity for a darkroom, popular interest in Photography has increased—witness the cartridge films and daylight development papers. Very often the average amateur cannot afford to build a darkroom of his own, and in a great many cases, where the expense does not interfere, the photographer's health will not allow him to indulge in darkroom work. The kodak developing machine, which we are at present introducing, will do away absolutely with the darkroom in kodak work, at the same time helping the amateur to obtain better results than heretofore. This means that new thousands will take up Photography; that other thousands will renew their interest. It will cause a steady and substantial increase in the photographic business. The people who have lost interest in Photography are the people who stay at home. The photographic business has been likened to the bicycle business. There could be no greater mistake. For a while bicycling was a fad. Everyone rode, and the demand for bicycles exceeded the supply. Now few people ride for pleasure, and the business is staple. The demand for cameras has always been steady, and at no time has Photography attained the immensity of a fad, so that now it is upon a firm, substantial basis. The interest in Photography has not decreased; it is simply normal. The developing machine will simply increase the scope of Photography and create a further healthy growth."

■



PHOTOGRAPHING A HUMMING BIRD

BY MAURICE D. BROWN, M. D.

ILLUSTRATED BY THE WRITER

The nest was built upon an angular bit of oak branch that, in falling from the tree above, had lodged in a tangle of vines and there, suspended above a quiet pool, swayed to and fro with every breeze. Several visits were made to the little body that she might become less fearful of my presence. And when our acquaintanceship reached a degree that permitted me to stand within three feet of her without frightening her away, I decided to take her picture.

Because of the position of the nest over the water, it was necessary to wade out to it. Doing so, and adjusting the tripod, the long bellows of my camera was extended, and the lens placed about fifteen inches from the nest. During the process of focusing and arranging the view on the ground glass, the bird left her nest several times, but upon ceasing my manipulations and standing quietly, she returned again. Finally, securing proper focus, the lens was stopped down to 32 U. S., and an exposure of two and a quarter seconds given. The accompanying photograph is the result.

The lens was stopped down to secure depth, which, at full opening and the amplification used, would not have been sufficient to render head and tail sharp at the same time. The long exposure was necessary on account of the dense shade and the small stop used.

A CONVENTION OF PROGRESS—BRIEF NOTES UPON THE WORK AND SUCCESS OF THE TWENTY-SECOND ANNUAL CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA

BY CARL E. ACKERMAN

Progress was the keynote of the Twenty-second Annual Convention of the Photographers' Association of America held at Buffalo, August fifth, sixth, seventh and eighth; progress not only in Photography but in fraternal feeling, in spirit and in convention-making. It was essentially a modern Convention, managed in a thoroughly business-like manner and of the highest value to the photographic world. From the moment that President Edmondson's gavel called the first session to order until the final act of the Convention there was a swing to the meeting that brought every one to the frame of mind where it was give and take for the benefit of the whole rather than the welfare of the individual.

From a business standpoint the Convention was more successful than any that had preceded it. Treasurer Frank R. Barrows' face wore a satisfied smile when he reported to the Convention a surplus of nearly five thousand dollars in the treasury, and the manufacturers and dealers represented in the industrial exhibition reported a most satisfactory business. The one-day intermission in the program, an innovation this year, made it possible for the photographers and manufacturers to get together for business discussions, and every one was pleased at the result. The manufacturers arranged their exhibits in far better shape than ever before, and as the exhibition hall had been carefully decorated in white and yellow the effect as a whole could not have been improved upon.

THE PICTURES

Over twelve hundred photographs were displayed on the walls of the Convention art gallery, all being arranged in a systematic and careful manner. A criticism of such an exhibition could not be complete even if the critic spent four weeks in the inspection instead of four days; but the overpowering impression of even the most casual visitor was that the standard was far above that of last year. Without being freaky or bizarre the pictures this year possessed an interest which fully substantiated the speakers who commented upon the progress of the members during the past year. The effort of almost every worker to impress his own individuality upon his work was one of the most pleasing signs of the Convention.

THE NEW OFFICERS

J. George Nussbaumer of Buffalo was unanimously made President of the Association in recognition of his magnificent work in the past, and especially for the manner in which the Buffalo Convention was handled. The new officers are: H. A. Collins, Boston, Mass., first vice-president; J. E. Griffin, Wheeling, W. Va., second vice-president; George G. Holloway, Terra Haute, Ind., secretary. Frank G. Barrows, incumbent, was re-elected treasurer with cheers and many kind words.

Indianapolis, Ind., was selected as the next place of meeting, San Francisco being a close second in the race.

NEW MEASURES

Among the important measures passed at the Convention was the establishment of an official publication of the Association. The Executive Committee was authorized to publish one issue of such a journal before or after the next meeting of the Committee. The publication will take the place of the usual souvenir program.

The advisability of making the meetings of the Association biennial instead of annual was fully discussed, and there is a strong probability that such action will be taken in the course of a few years. The growing strength of the numerous State organizations with an attendant falling off in the attendance at the Association meetings is one of the primary reasons for the move.

THE PRESIDENT'S TOKEN

At the close of the Convention the retiring president, George M. Edmondson, was presented with a handsome bronze statue, Pirie MacDonald acting as spokesman for his fellow members. He wound up a very happy little speech with the hope that Mr. Edmondson would accept the present "as a token of the appreciation, not of the work, not of the manual labor, but of the heart he put into the work."

The President responded feelingly.

PAPA CRAMER AND HIS FAMILY

The influence of one individual upon a convention is oftentimes responsible for its success or failure wherein fraternal feeling enters to any considerable extent. To "Papa" Cramer is due the enviable reputation of being this one man at the annual meetings of the Photographers' Association of America. At Buffalo "Papa" Cramer was the heart and soul of the meetings. His genial face and silvery locks were ever present, and his frequent utterances of the slogan that became famous at Detroit, "I am so happy," often brought cheer to the hearts of the workers and a smile to the faces of all.

We present a picture showing "Papa" Cramer surrounded by his corps of demonstrators, a body of men known wherever photographs are made in America. Those who compose the group are "Papa" Cramer, J. F. Edgeworth, E. L. Somerville, J. J. Sheets, S. P. Wells, J. Durilla, H. R. Hemperley, S. Carrick, Charles Nash and H. B. Shaeffer.

In an impromptu speech at the Convention "Papa" Cramer said:

"I am very glad, in fact, I am 'so happy' (laughter), I cannot help but spring that on you, because now is our chance to be happy, and you ought to use every chance in your life to be happy. That is the great key to your success and your satisfaction. I am sure I am so happy. I have such a good audience here for the National Convention. It should be our aim to uphold our national meeting. I am sorry to see so many of our leading photographers absent; those who have made their very reputation by attending these meetings here, and gaining knowledge from the information of others. They should try to return what they have received, and their staying away I think is totally wrong. With all due respect for the State associations and the success of their meetings, this is the mother association of them all. This is the only chance we have to meet all our friends once in the year."

"PAPA" CRAMER AND HIS FAMILY



SOME GEMS OF THOUGHT FROM MASTER MINDS AT THE NATIONAL CONVENTION OF 1902

BRIEF EXTRACTS FROM ADDRESSES DELIVERED AT BUFFALO

President George Edmondson, Cleveland, Ohio—Photography is feeling the impulse of the progress of the times. Like all its sister sciences, its march is steadily onward. There probably has never been in the history of the world such an impelling forward movement in the arts, in the sciences, in invention, and especially in industry and trade as has marked the past decade. Photography's banner is in the van, and the future is fraught with interest. Photography has ceased to be a trade; it has become an art. So swiftly moving is the time in which we live that this revolution of Standard may said to be a triumph of the past year. There has been a common contribution to this elevation of calling. It cannot be called the work of one man, or any score of men, it is a process of refinement to which thousands have contributed. * * * Credit for this advance should be bestowed upon the National State Associations, upon the splendid work of the photographic magazines, and upon the earnest students in operating and darkrooms.

Prof. A. H. Griffith, Detroit, Mich.—The other day in the street car a man said to me, "What am I going to do with my boy?" "What kind of a boy?" I said. "Oh, he cuts the doors of our flat, scratches the polished floors. He is into everything that you can possibly think of." I said, "How many children have you?" He said, "Five." "Do you live in a flat?" "Yes." "Get out of it. The most damnable thing in modern life is the flat for the family. Live in a cottage, in a shanty, but give the boy a room to himself where he can tell his mother, the housekeeper, and everybody else, to stay out and let him alone; where he can make shavings if he wants to. Give him a kit of tools and a board and let him cut away at it." Now, will you believe it, on inquiry I found that that boy made all the carts in the whole neighborhood for all the other boys—a born carpenter. He was stifled in that flat, and impelled by his desire to make something to cut something, he was cutting things that he ought not to.

Now, when you pick out an assistant, somebody to help you in your gallery, try and find some one who has the qualities you do not possess. If you find a boy who is a born photographer, with artistic instincts, make him practical; let him grasp the things that you seem to let go by. The magnificent business manager is the fellow who makes other people work, and who does it in such a way that they think he is doing it all, but is not, but it is the other fellow. There are a whole lot of you photographers who are getting credit for what another man is doing; but you deserve it, because you direct the other man. A general does not shoulder a gun and go into battle. He stands off at a safe distance and directs all those soldiers, so that by means of his magnificent strategy the battle is won. In the same way the wise business man utilizes the energies of others, and this is just as true in the small shop as in the great shop. * * * You photographers make your figures too squatty. You think that you don't do it, that your camera does it. You notice the first lady or gentleman whom you see coming down a stairway, and you will observe that when they get within about three steps of the bottom, what grandeur is

there; they are elevated. You photographers all look down on your people. That is the great trouble I find with fifty per cent of the pictures, you make your figures squatty; they do not get the elevation.

C. H. Smith—I believe that a man must be somewhat of a philosopher to be a success in any business. I think the fisherman who sat on the bank of the river one day and saw a calf's tail sticking through a knothole in a tannery fence across the river, and immediately dropped his fish hook and line and sat there in a brown study wondering how that calf got through that knothole, would never have made a photographer. If we are not philosophers enough to figure out a few little things we will never make a success of Photography. Out of twenty-six studios I visited on one trip I found that fourteen were developing in a light that would fog a plate in forty seconds. That is carelessness. Just think of it! Over half of them would fog a plate in forty seconds. I have a darkroom at home in which I can see the second-hand on my watch, and the very labels on the bottles, but it is non-actinic. I have been in studios where they had the window covered with tissue paper and a hole just big enough to see an indication of light. That man didn't know any better. I undertook to fix it for him, and could not find any yellow paper in town, but I finally did find some that worked. Those are the little things in Photography which go to make your business a success. Then we see studios with dilapidated show cases. Some of you go home and see how your show case looks, and I will guarantee that you will be ashamed of it. You cannot expect to do business in that manner.

Lucius W. Hitchcock, Buffalo, N. Y.—It is the skilful variation of sound that changes a monotonous note into music. And in picture making it is the proper variation of space, line, color and light and dark that makes a beautiful picture.

Now, it is the reputation of artists that they are different from other people. They are themselves variations of the human species. They wear things a little to one side, as it were, and it is just this happy-go-lucky unconventionalism that we want to discover. However, you must not at once jump at the conclusion that it is merely the something odd that is required.

There is a definite law that governs these oddities, so to speak, and if one simply started out to be bizarre without understanding the reasons why and the broad principle that governs them, it is easy to see that he would be groping in the dark, and lucky if he ever hit the mark.

You must recognize in the start that art is something more than the mere copying of nature. Art must always come from nature, but through a personality. Art must be more than nature, by being less. This seems like a paradox. However, Millet and Previs de Chavannes are great for what they knew how to leave out. An artist sees less than is in nature when the sacrifice would make the important thing tell the more. So, in this we have a very important variation—the variation of the power of seeing. * * *

Now, I know that in every-day work the photographer will encounter as many obstacles as a painter in making people understand what is good. I can hear a howl coming from the professional photographer, saying, "You can't do it." I know as well as you do that when a bride comes into your studio with all her bridesmaids, the picture will be voted a failure if every face is not equally

clear. Mary Smith must be as much in full light as Jennie Jones, and yet a beautiful picture can be made. I say you can do it. You cannot sell the best thing that was ever made to some people, but now there are people of taste everywhere, and at the rate you are going it will not be long before you cannot sell anything that is not good. Some patrons will never appreciate a fine thing, but just as soon as it becomes the fashion they will want it. * * *

Lighting is perhaps the most important feature of composition, and when properly manipulated will make even a bad arrangement interesting. The secret of the whole matter is variation. The same principles we apply to space and line will hold good in regard to light, by subduing the light on unimportant things and allowing full strength on the accents. In this way some things will be shrouded in mystery, and your pictures will be far more suggestive than they would be if everything was out in full light. * * *

Don't abuse your black in a light picture nor your light in a dark picture; they are the extremes of your palette and the controlling notes of your arrangements. An indiscriminate use of either makes it simply a question of getting it all in. They should be saved up as the last trump, and then played at the right time.

Otto Walter Beck, Pratt Institute, Brooklyn, N. Y.—Art is arrangement, and art is the result of "schooling." Unfortunately, in the past, photographers have believed that art in Photography grew out of chemicals and lighting. * * *

A portrait should have suggestiveness. It should have the evidence of your creative powers all through it, for that is the only means by which an artist's personality is revealed. * * *

Nature builds up her forms with lines, and they have a large share in producing the emotions nature calls forth in us. Nine-tenths of the reasons for unsatisfactory quality in photographs in the past is due to the misuse of lines. If we in the profession of Photography had known what lines are and what they express in a picture we should have long since valued the abstract line in place of those gained from so-called "studio properties," the bric-a-brac that has been so costly.

If photographers were familiar with the nature of lines, light and dark, light and shade spotting with the influence of irregular shapes, with tone, color, depth, gradation, how light and dark affect the emotions, how expression is gained through these elements, there would be far less worry and concern about the "lighting" of a portrait.

While carefully studying through the principles of art as practically applied to Photography, I found that after eighteen principles that were absolutely essential had been covered, the subject of "lighting" was nineteenth and last, for lighting depends upon these eighteen in order to be made effective. For many years we have puzzled over lighting, believing it to be everything. In fact, the common idea was that if the "lighting" is right almost everything can be placed back of the sitter and the effect will be right. There is no hope in that direction. Art in Photography, in painting, in sculpture, design, architecture, is space-filling, is space-division governed by beauty and logic.

Col. J. A. Ockerson, Chief of Department Liberal Arts, St. Louis Exposition—Special provisions have been made for the display, in the Palace of Art, of carefully

selected examples of artistic Photography which may satisfactorily pass the critical inspection of the National Jury of Selection of the Department of Art.

In all departments of the Exposition we are looking to quality rather than quantity, and our aim throughout will be to gather only the highest and best.

"Papa" Cramer, St. Louis—While so much has been done to elevate you for the higher art, the artistic part of our profession, we must not forget that Photography is not only an artistic, but also a mechanical profession. It is my duty to especially look to the mechanical part, the chemical side of it, and strive to reach the utmost perfection in that regard. That is the solid ground upon which you are to build your artistic superstructure. You must not forget that it takes good work to produce a good picture. Unless you go entirely into the fake line, where anything is allowed, the true artistic picture must be perfect in all respects. You do not want to run after new experiments and meanwhile sacrifice fine detail in the work, simply for an effect, which is called art. Really, it is not art. A picture ought to show the finest gradation, as well in the light as in the shadows. To obtain this you must pay strict attention to the mechanical part of your work.

Elbert Hubbard, the Editor of "The Philistine," East Aurora, N. Y.—Whether Photography is art, or not, depends upon the photographer. Art is not a thing separate and apart; art is the beautiful way of doing things. And you will have art wherever you have the artist; and where the artist is, there art will come and make her home, with all things beautiful and true; and there she will stay; and after the artist is dead she will yet remain in the neighborhood for a while; but finally she will go elsewhere. You will have art wherever the artist is. * * * I am not ashamed of my business, I like to talk about my business; I like to talk about my stuff; I am interested in my stuff, and I am interested in my business; and I believe that at the last modesty is only egotism turned wrong side out. Now, there are a good many points in every business that are very much alike, that we hold in common. I am not in business entirely for my health; but I get a good deal of enjoyment, a good deal of satisfaction out of my work. * * * There is no use in your trying to underbid somebody making a cheap thing. The thing to do is to make your article good enough; it is the same in Photography, the same in bookbinding, the same in printing. * * * Remember this, that every woman you hire, every woman you employ is doing for you the thing that you would like to do for yourself if you could; each of those individuals is your other self. So isn't it natural, right and proper that you treat them just as you would like to be treated yourself?

W. M. Hollinger, New York—Let us make our work so that it will show up according to the manhood of the man back of it, and the people will feel it; they will pay me more for a frame than they will some people down in our State, just because I say so. I go to Knox and buy a hat; I am willing to pay him four dollars for a hat when I can get something at another place exactly similar, but the hat that Knox sells has his name in it, and I know it is up-to-date. That is the way people do with us in Photography.

Morris Burk Parkinson, Boston, Mass.—The picture should be judged on its merits, no matter how done. If it be half camera and half knife or pencil,

it should be all the same, provided one can say, "Behold the very form and mould of nature." I saw an album of amateur productions, which bore to me the ear-marks of much after manipulation, that were, partly for that reason, so beautiful that they should make the amateur of thirty years ago turn in his grave with envy, if perchance he be not with us still. * * * Faking, too, in Photography is not a failure, because some microscopic examiner gets his eye on it, and by some little difference in pigment or surface texture, discovers it. You might as well say that my spotting a white spot out of a picture is bad because the original of the portrait—who knew the white spot was there before—gets her eagle eye down to it and discovers, though she cannot see it a foot away, that something has been done there.

Now what is photographic faking, and I have been using this word not as slang, but in its best sense? It is, if well done, simply improving the negative or the picture by any means in your power. Some of us have been advised during the winter, by a well-known painter, never to do it; if we do we are out of our sphere, and will surely fail. We must absolutely confine ourselves to what we can make the machine do—only this and nothing more. The painter says the camera sees too much, but advises the photographer to leave it all in. *He* wants to monopolize the privilege of modifying it to satisfy the artistic sense. In other words, *he* wants to do all the faking. We all know the camera sees more detail—every tuft of grass, every leaf and flower—than a glance of the human eye does. As what the camera sees in all its detail is the real thing, is really there, the product of the unassisted camera must be realistic, too realistic.



LIGHT BEYOND

BY GEO. E. TINGLEY



J. GEORGE NUSSBAUMER
The new President of the
Photographers' Association of America

GOOD BUSINESS METHODS FOR PHOTOGRAPHERS

AN ADDRESS BY C. M. HATES, OF DETROIT, AT THE BUFFALO CONVENTION

The subject which President Edmondson assigned me, "Good Business Methods in Photography," I feel some diffidence in trying to elucidate. So much so that I feel it better for me to simply tramp over the ground learned by a long acquaintance with successful photographers and a careful study of their methods, and make my grounds surer and perhaps be of more solid instruction to younger photographers and those of less experience than myself. What I have to say is from a purely business standpoint.

We might consider it from two standpoints, but remember that my theme is "Good Business Methods," and it is only with the business end that I shall deal. I shall say nothing of the higher ideals that actuate the soulful artist or move the art-steeped and imbued member. We have but one way to look at the view that the world takes of us. The great world has but one way of expressing its approval, and that through the only standard of value it knows, the standard of the dollar. It neither coins the gasps of sentiment nor the throbs of emotion in money value, but stamps its approval, when it does stamp at all, by the dollar mark. That is the test of good business. The only stamp and coinage of universal approval the world gives. With the heart-burnings of the disappointed idealist the term business has nothing to do. Business bears as close a relationship to ideality as the grimy, stolid engine driver to the time-wasting, slothful dreamer.

Bear in mind that art ideals are left for those more learned and more talented to talk to you about.

For convenience sake, we will classify the three grades of photographers. While there are many exceptions to these classifications that are successful, yet the field, I think you will agree with me, is very thoroughly covered in these three, namely, the factory owner, the impressionist and the photographer.

The factory owner is a loud-voiced, advertising gentleman who toots his business horn indiscriminately and at all times. He is a man of reduced prices, club rates everything that is clubable, sells tickets, always gives away something, makes groups of ministers, grocers, albums of secret societies, college and school work. Invites theatrical and professional people and everybody else if there is a chance of getting an order for a dozen pictures on speculation. Help is hired for the amount of work and not the kind of work that it can do. He is systematic, keen and sharp. As a rule he does no operating himself, but devotes his time to shrewd advertising, close buying and the careful superintending of his workmen, so that he is enabled to produce pictures at a rate which sells them, anyway. Not a new style of picture, but a new scheme, coupled with a thousand older ones, helps to keep this gentleman alive. He makes money and legitimately so. Of course, I do not mean by this the leech or barnacle that attaches itself to the profession and lives by the gullibility of the stock-dealer and the boarding-house keeper; but a man who looks at Photography not as an art but as a business proposition, pure and simple.

The factory owner does not have a long business life, as factory owners are born every day and the new one has the lessons, the failures and successes

of the older ones always before him to profit by and improve upon. Of this type the public and even the individual himself very soon tires. There is ever that same lack on an endeavor to excel in the better part, the same dead level of mediocrity and monotony and too often the very thinly disguised presence of simply grasping greed that reaches ever for quantity and not for quality. The always whirling grindstone of commercialism sharpens the features, but it wears and destroys the finer sensibilities. Even the most progressive devotee of this type grows tired of the dead level to which he invariably sinks, and he finally gives up and drifts, or steers, to some other business where the monetary returns are greater, the promises more rich, in view if not in fulfilment, and the demands of higher class less insistent.

Directly opposite to him is the impressionist. This gentleman is intriguing. While the ultimate business end is attained yet the results are arrived at by a road as directly opposite to the factory owner as is the rising from the setting of the sun. Photographs, dozens and prices are words that are entirely absent from his vocabulary. Money sends a chill (I might, in a low tone of voice, say thrill) through him. Trade eccentricities and mannerisms are the principal parts of his make-up. He never gets down to taking photographs with the lens, but he creates portraits. He never likes or dislikes a photograph. It either appeals to him or it lacks soul. He is never making reductions but is always "tucking it on" and telling of it.

He never gives away anything but an art lecture with every order. His studied familiarity with noted artists, his glibness with art terms at once impresses the lay mind with a marked similarity between the impressionist's creations and those of the noted artists of the brush and pencil. The wife of the newly-rich president of the water trust, after she had obtained a sitting with him—which is done only through a great deal of formality with which he shrewdly surrounds himself—knows that she has obtained something which the wife of her husband's clerk cannot get, and she is doubly sure of it when the bill comes in. Now the impressionist has made money and legitimately, too. His clientele demands mannerisms, dramatic art, formality and mysteriousness; he furnishes it.

The chances are that the wife of the water-trust president would not go to the factory owner, and if she did would take the cheapest picture he made and then grumble about the price of an extra negative. She has the highest respect for the impressionist, and he has made money out of her. Is it not a legitimate transaction?

The impressionist by the very nature of things is a narrow man; he is full of crotchets and his very manner gives his patrons and friends the idea of affectation. Such characteristics do not wear well and soon become tiresome to all. He lacks the *suaviter-in-modo* of the factory owner and his life of popularity, if such it can be called, is even more brief and uncertain than that of his brother first mentioned. It is because his lack is the greater of the two.

The photographer belongs to a little broader class of men. He goes beyond his own individuality far enough to know that the whole personnel of the fraternity at large helps to make or mar his own standing in the community in which he lives. Like old dog Tray, he sometimes finds himself a victim of



MOORE & STEPHENSON
ATLANTA

fellowship. I believe that the Photographers' Association of America, and its tributaries, the State Associations, and their influences, have done more to elevate photographers, in their business standing, than anything else in the past quarter of a century. I do not wish to infer that there were not good, responsible men in the business twenty-five years ago, but I do contend that photographers, as a class, are more highly respected and in better standing in the community than they were at that period.

The day of the fly-by-night, and the irresponsible, never-pay-for-anything is fast going, if not already past; that class has been weeded out and better pictures are being made. The broad-guage gentleman, whom I wish to typify as the photographer, is the man who does not travel the beaten path and who does not crystalize. He thinks for himself, and yet is wise enough to realize that the thoughts of others are to be utilized for what they are worth; the man who sees that the microscopic definition is no longer desired or desirable in a good photograph portrait. He sees that spotted photographs, and all sameness in posing and styles wear him out of favor and weary him of his own labor. He realizes that each individual who selects him as his photographer, and pays him the price demanded, must have the best of attention and requires an individuality about the work which will bring out the individuality of the subject. He knows that if he exhibits, and feels a natural pride in his profession as a photographer—and the name of his products as photographs—that he has not laid himself or his profession open to criticism in being trivial or undignified.

Such is the photographer, and he is different from the two other classes. In a word the factory owner and the impressionist resemble a man trying to run a locomotive on one of the rails of a railroad track, where both rails are essential. The photographer combining the merit of commercialism and the pride of art has both rails upon which to run his train of progress. Seeing the mistakes of commission of the factory owner and the errors of omission of the impressionist, he can and will avoid alike the Scylla of the one and the Charybdis of the other, and by seizing the best points of each and improving on them, he adds profits to his business and standing to his profession. He is out of the rut, foot-free and always advancing along the lines of the best thought. New patrons join the old, and he, too, succeeds legitimately.

These are three distinct classes of photographers which I have typified, and any one of them may be successful. I do not pretend to say which is the best, as I have observed only through my own eyes and compared them by the narrow confines of my experiences. I do not believe that I will be considered presumptuous (when the years I have spent in the work and the acquaintance-ship which I have formed is considered), if I take the liberty of classifying thus our successful portrait Photography. If there are any points herein which the younger and inexperienced members have not known, I am more than pleased with my effort. Much more could be said of the non-mysterious working of these craftsmen, and as to the artistic value of their product, but that I shall leave to some more talented member to explain.

Two unalterable principles we must adhere to, namely, that all advertising and all sharp scheming are but temporary in success unless backed by solid, clean, artistic work, systematically handled, with prices graded to the amount of

work done. Photography more and more is partaking of the individuality of the photographer, and in consequence he must store his faculties and not abuse them by being overly anxious for quantities of work. When he reaches the point here his labors are becoming too arduous, his prices should increase and keep increasing until that point is reached where he can go to his labors with that bright mentality which comes from rested physical health, then the thought, the power and all that is best in him artistically is bound to appear, and with that appearance in his work comes the approbation and applause of the public as shown by their patronage and their money. A tired, hurried mind never produced anything but mediocrity, or worse.

I have to thank Mr. Edmondson for the twenty minutes he assigned me.

THE IDIOSYNCRASIES OF THE CUSTOMER

AN AMUSING EXTRACT FROM THE ADDRESS OF MORRIS BURK PARKINSON AT THE BUFFALO CONVENTION

One of the most constant and abiding irritations a photographer has to deal with is the instance with which Mamma, Papa, Sister, Cousin, Aunt, Nurse and even Bridget press into the operating room to be present at the execution of the poor little fellow, who, if let alone to get acquainted with the photographer, would soon assume a naturalness that would suggest poses and expressions resulting in pictures destined to bring pleasure to the hearts of the family for years to come. I hear some one say, "Why don't you keep them out?" After an experience of one hundred and fifty thousand hours in the business, I have made up my mind that nothing short of a policeman in uniform will do it. Hints will never do it; requests will seldom do it; demands will often fail. A gun might keep them out until near the end of the chase, but I'll warrant that some one or more of them will creep in to be present at the death. But even if they do not edge in to be at the right hand of the photographer for the final and perhaps most important exposure, Nurse and Bridget, who have placed themselves immediately behind the background not over three feet away, let forth a giggle, and quick as a flash the youngster grabs the headrest and wheels around to find out what the joke is all about.

What is the secret of this desire on the part of all to see the picture taken, for it is certainly an over-ruling passion? I have analyzed it to some extent and come to the conclusion that with Bridget and the nurse it is a saturated solution of curiosity, pure and simple, but with Mamma, while the saturated solution of curiosity is not absent, it is mixed with a ten-per-cent solution of a mistaken desire to help. You notice that even with Mamma I put the desire to help at ten per cent and curiosity at one hundred. Time and time have I talked to a mother like this when about to take photographs of her child: "Now, Mrs. Doe, you and I both desire the same result—the best possible picture of the little girl. If she should be frightened, I will call you, otherwise I can get the best results if I am left alone with her. The presence of a relative, even a mother, has a self-conscious producing and embarrassing effect if the child is old enough to realize that something out of the ordinary is going on."

"Yes," says Mamma, "I understand," but still she stays. So I try again; I explain how a mother a few days before in trying to hide behind the camera out of sight of her beloved little one, just as I was pressing the bulb for the best expression, hit the camera with her elbow and, as I discovered on development, knocked half of her beloved little one off the plate.

"Yes," says Mamma, "certainly I understand," but still she stays. Now I know by her assent that I have convinced her and overcome her ten-per-cent solution of helpfulness, but because she stays I have her saturated solution of curiosity still to contend with. In fact, that is where I get my cue to approximately estimate her desire to help at ten per cent and her curiosity at saturation. In short, it almost seems as though there are some mothers who would rather see the fleeting expression when it is taken or when they think it is taken, at the risk of spoiling it by their presence than by their absence securing a counterfeit that they may enjoy for many years.

Well, Mamma stays, and having given up all hope of being able to dilute the solution of her curiosity, I allow her to hide behind a screen over on the right, baby knowing all the time where Mamma is and dividing her anxious or furtive glances between the camera, the toy monkey, and the direction whence her maternal progenitor last disappeared, with the result that in the photograph produced, the baby's body faces the camera, the face is turned towards the monkey, and the eyes, at nearly right angles to the two former, are looking squarely at Mamma, her curiosity having impelled her to peep around the side of the screen just at the fatal moment. But let us do Mamma full and complete justice. As soon as she is aware that the baby's eyes are turned nearly inside out to see her, she proves her desire to be helpful and do all in her power to assist in producing a splendid picture, by getting back behind the screen again just as quickly as possible. She little dreams that she has already ruined the gem of the collection beyond repair.

Then take the case of some other mother who shows her devotion by being willing to "stand by me" after having the benefits of her absence politely explained. I make the best of the conditions and say to her: "Kindly do not say a word to little Johnny about his m-o-u-t-h," spelling out the word for fear that Johnny himself might get on to my reference to that elastic, refractory, but very important organ. After having been engaged for some time in getting Johnny's nether lips into reasonable proximity one to the other, without letting Johnny know what I am working for, as I found that their normal position, or the position they had held for the fifteen minutes preceding, would allow me to shoot a large-sized marble into his mouth without hitting either of them, Mamma, who has forgotten my admonition and who evidently thinks I have been exposing plates as fast as I can of that countenance, suddenly bursts out with "Johnny, darling, shut your little mouth!" Without stopping to comment on her use of the word "little" in this connection, I will simply say that I am now *in for it* for another hour. If Johnny is under three, he will probably open the orifice two or three notches; if over three, he will have become aware for the first time, thanks to Mamma, that he has a mouth, closing it like a flash of lightning and in about the manner a live crab would close on the same little Johnny's toe had he the opportunity. And the curves and the angles that he will get that supple

organ into for the next half hour gives promise that with any reasonable amount of practice he may become a great contortionist.

In time, I am generally able to extricate myself from even this dilemma, in which Mamma's zeal has placed me, and do it by getting the little one to talk to me.

Some of the ladies may say: "Why don't you put some of your stories on to the men?" Should I search my memory, I do not think I should find it altogether barren of masculine reminiscences, and I am only too sorry that I *cannot* truthfully say that the person who was posing for me one day for a *bust picture* and who exclaimed, just as I was pressing the bulb, "Hold! wait a moment, I forgot to take off my rubbers," was a man, for it was *not* a man. And, again, the one who insisted that I be called from the darkroom recently — the offices of no employe in the office being satisfactory — where I had to remove my rubber apron and gloves and touch my hair up to have her tell me, on my appearance upstairs, that she had just made an appointment for a sitting, but wanted to know from my own lips whether I could take the pictures as well if the wind blew. This, however, was not in Boston.

But it was a gentleman who returned his proofs to me one day with a letter in which he said he was perfectly satisfied, in fact delighted, but would I kindly change his dress coat so that it would have a short lapel, and also make a high-cut vest to match, inserting one stud in the bosom of his shirt where there were now two. Lastly, he had unfortunately parted his hair that morning too much on one side; would I please part it in the middle!

And it was a gentleman — but there was some excuse for him — he had just been married — who wrote me some years ago from a southern state. He enclosed the bust photographs, no less than fourteen in all, of the people present at the wedding lunch they had out in the open air in an orange and palm grove of his southern home. He wished me to return him a group photograph of this scene. I could use the enclosed photographs, changing the views of the faces, making them look at each other or otherwise, completing the figures and costumes according to my artistic taste. The directions for the table were specified; he probably described it just as they had had it — a large bouquet of flowers in the center, both ends ornamented with a quivering mould of jelly flavored with sherry; big dish of chicken salad, right hand; platters of sliced ham and turkey, left hand; olives and confections of various kinds, glasses for drinking at each plate; bride's loaf with all its suitable trimmings to adorn one side of the table. "Be sure that you put in an abundance of everything," said he. "We had several kinds of salads and cold meat, cakes, cream and confections which you can arrange to suit your taste." Well, it is needless to say that I returned the photographs, declining the commission with thanks. If, however, there was any one thing more than another which decided me not to attempt the execution of that order it was that mould of quivering jelly. I could possibly produce a photograph of the jelly, but there was no method of which I was cognizant by which I could make it quiver.

Cash prizes amounting to nearly \$10,000 will be distributed among the amateur and professional photographers who enter the prize competitions now being advertised by the leading manufacturers of photographic goods.

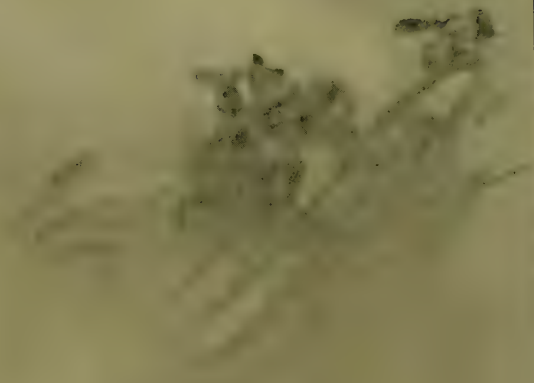
A FEW OF THE NOTABLE PICTURES DIS-
PLAYED BY PROMINENT PHOTOGRA-
PHERS AT THE BUFFALO CONVENTION



A YOUNGSTER
by C. A. REEVES
CLEVELAND, OHIO



PROCTOR'S STUDIO
HUNTINGTON, W. VA.



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"JOHN BULL,"
by GEORGE RODGERS
ALBANY ART UNION



THE MINER
by JEANNE J. BERTRAND
TORRINGTON, CONN.

SPIDER WEBS

BY L. J. LATHWESEN

ILLUSTRATED BY THE WRITER

Amateur photographers are apt to wander far afield in search of their favorite bits, often neglecting the gems near at home. The dweller at the seashore longs to photograph Yosemite, and the "member from the country" can

see no beauty in the flag-hedged road that fronts his place, but is sure that he would get plenty of marines, if he but had the opportunity. However, the grandeur and sublimity of the towering cliffs, and the awe-inspiring might of the ocean, and its vast sweep, are all lost when we reduce the picture to the size of a 4x5 negative.

The requisites in photographing spider webs are a fast lens, infinite patience, the ability to work quickly when the time comes, and a total disregard of what is going to happen to your clothes, for you may have to trample down a hundred square feet of wet grass and weeds to get a good picture, and then possibly lie down on the same for careful focusing, for the spider has the pernicious habit

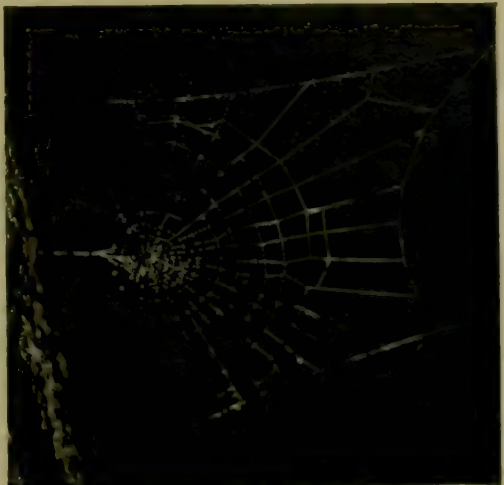


NO. 1

of placing his web where it will do him the most good, without regard for the amateur's convenience.

A new spider web is practically transparent. It is only when it is covered by the tiny drops of heavy mist that it becomes a photographic possibility. Then it will be necessary to wait until the sun breaks through to bring out all the beauties of the moisture-laden web. An excess of water (No. 1) will generally wreck the frail structure. No. 2 is an irregular structure in a rather exposed situation. The owner was evidently an indifferent architect, for while the web was several times replaced, it never approached in beauty and symmetry No. 3.

The different parts of the web are clearly shown, but it is characteristic



NO. 2

of this species of spider that in exposed situations, where wind or other untoward circumstance may quickly wreck his domicile, he is inclined to devote less care to its elaborate and symmetrical construction than when he has chosen a sheltered location for his home.



NO. 3

his web be torn or wrecked entirely, he will not venture forth till nightfall to repair the damage.

Many weary hours of patient waiting must be endured before the operator becomes acquainted with the peculiar habits of his interesting friend. It is always a good plan to read up on such subjects before starting out to photograph them, but this the writer had failed to do, and was, in consequence, at a loss to account for the absence of the diminutive architect.

His place of refuge is a securely hidden and, generally, well-protected den. From this a single thread leads to the center of the web, giving immediate notice that his presence is urgently required. It will be noticed that the moisture adheres much more freely to the cross lines of the web than to the ribs or framework or of the long-distance telephone running to the den.

While the bee and the ant are often held up as examples of insect intelligence, I am sure that a study of the spider and his work will easily convince any one of his primacy in intelligence, ingenuity, persistence and reasoning power in the insect world.

On the other hand, No. 4 presents a rather daring engineering feat (for a spider), being swung between the handle of a garden rake and the trunk of an old pine tree—a distance of fully two feet. In this case an obliging domestic was pressed into service to hold the focusing cloth in position for a suitable background.

In these pictures the absence of the spider will be noted, but though not in sight, he is nevertheless at home. An abundance of voracious wasps, with a highly cultivated appetite for fresh spider, has taught the latter caution, and even should



NO. 4

CAMERA CRAFT

ISSUED MONTHLY BY
THE CAMERA CRAFT PUBLISHING COMPANY
114 GEARY STREET, SAN FRANCISCO

Entered at the Post Office in San Francisco
as second class mail matter

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ADDRESS ALL COMMUNICATIONS TO THE
CAMERA CRAFT PUBLISHING COMPANY

VOL. V.

SAN FRANCISCO, CALIFORNIA, SEPTEMBER, 1902

No. 5

Each season has its photographic attractions and possibilities, and by the time this journal is in the hands of its readers the glories of summer will be well nigh past. The sharp contrasts born of cloudless skies and a sun near the zenith will begin to fade into a lighting less dramatic, and as the season advances the dense foliage of summer woods will shed their leafy burden on the forest path and once more reveal the beauties of arboreal anatomy. Green will change to yellow, russet and red; and blue skies take robes of gray. These changing conditions suggest the possibility of new work on old places, scenes that have already been taken in winter and spring and summer may now assume an entirely new guise and lead to the production of pictures fraught with great possibilities, even when previous experiences with the same locality were disappointing. The remarkable differences that are wrought by seasonal, and even diurnal change, the variation that comes with morning, midday and evening lighting are by no means properly appreciated or made use of by the average amateur. If any of our readers has a favorite spot, let us advise him to try the experiment of making twelve negatives thereof, at morn, noon and evening, of the four seasons of the year—it will teach a lesson well worth learning.

But to return to the subject of the coming fall, we would recall to beginners the fact that many of the conditions under which he has worked during the spring and summer become markedly changed. The frequency of mist has its influence on exposure apart from the lowered actinism of the sun itself. Moreover, the fallen leaves change the relations of foreground and mid-distance, increasing the light value of the former, and by their massing along the edges of forest paths producing new lines, often of great beauty that are not obtainable at other seasons. Again, the shortening of the day renders it possible to obtain early morning effects without rising at an unreasonable hour. Moreover, these early autumn mornings with flower and leaf and spider web dew-bedecked may yield foreground studies of the greatest beauty. Finally, it is to be remembered that the prevalent green tint of summer now becomes a no less dominant reddish or yellowish brown that demands a more careful chromatic correction than the summer hue. Some orthochromatic plates are thus corrected, and we are inclined to believe that the orthochromatic plate of Seed, made for portraiture, would meet these tints better than their landscape orthochromatic. Lastly, these fall tints could be provided for by modifying the color screen.

THE EXHIBITORS AT THE BUFFALO CONVENTION WITH A FEW NOTES ABOUT SOME OF THE PROMINENT PHOTOGRAPHERS WHO ATTENDED IT

BY A "CAMERA CRAFT" REPRESENTATIVE

The Golden Manufacturing Company, of 194 Clinton Street, Chicago, Ill., exhibited a complete line of gold-plated metal frames, in charge of Messrs. Walter Hughes and E. D. Manchee.

One of the most artistic exhibits displayed by any of the manufacturers was that of Willis & Clements, Philadelphia, makers of platinum paper. Pictures by Rudolph Eickemeyer, Jr., Henry Troth, Davis & Sanford, Pierce and Garo, all neatly framed and arranged against a neutral background, made the visitors' thoughts turn instantly to the Salon of last year. Mr. Alfred Parker was in charge.

The American Paper Goods Company, Kensington, Conn., makers of enclosures, photo mailers, and negative preservers, had upon exhibition a full line of their goods, shown by Messrs. J. W. McDowell and L. S. Reynal.

The Rotograph Company, 101 Fifth Avenue, New York City, had one of the most neatly arranged paper exhibits on the Convention floor. Each visitor was presented with an assorted package of paper manufactured by the Company, together with a miscellaneous lot of literature. The exhibit was presided over by Mr. B. Russegger, Mr. Juan C. Abel and Mr. C. H. Daws. Sample packages and full particulars of the various grades of paper manufactured by them will be mailed upon request.

As usual, the G. Cramer Dry Plate Company, of St. Louis, had no exhibit, simply fitting up an elegant booth filled with comfortable chairs for the entertainment of the numerous friends of this well-known Company. "Papa" Cramer in person met all the photographers, being assisted by Messrs. J. F. Edgeworth, H. B. Shaeffer, Charles Nash, S. Carrick, M. R. Hemperley, J. Durilla, S. P. Wells, J. J. Sheets and E. L. Somerville.

T. B. Livingstone & Co., 44, 46 West Quincy Street, Chicago, Ill., exhibited a full and complete line of gold frames. The exhibit was in charge of Messrs. H. Meyer and M. H. Benjamin.

The exhibit of The Joe Di Nunzio Company, 35 Olive Street, Boston, Mass., consisted of a large number of black and white and sepia prints on the famous Angelo paper, and was presided over by Mr. Joe Di Nunzio himself. Frequent demonstrations were given by Mr. Di Nunzio, assisted by Frank Leach, of New York, who has charge of the New York office of the firm.

A new line of portfolios was shown by Mr. B. E. Mechelman, 185 Sixth Avenue, New York City. These portfolios are unlike anything being made by other manufacturers, and it will well repay photographers to write for further information.

The Photo Jewelry Company, of Chicago, Ill., exhibited a complete line of photo buttons. The exhibit was in charge of Messrs. Charles P. Murray and A. B. Tebbetts.

Mr. Charles H. Nichols, manufacturer of the Nichols Portrait Flash Lamp, a new machine which the maker claims is the only practical and reliable studio flashlight on the market selling for a low price, gave frequent demonstrations with the instrument. Full descriptive circulars will be sent upon application.

The principal feature in connection with the booth of C. P. Goerz, 52 East Union Square, New York, was a magnificent silver cup offered in recognition of high artistic ability in portrait photography, and valued at six hundred dollars. A folder containing full information with reference to this competition was distributed at the booth, and will be sent by mail free of charge to all who request it. The new Hypergon wide angle, and the ultra rapid series No. 1 B lenses, attracted great attention from the photographers. The booth was in charge of Messrs. L. J. R. Holst, F. G. Burgess and W. F. Schreiber.

The exhibit of the Bausch & Lomb Optical Co., of Rochester, N. Y., was in charge of Mr. William V. Moore, and contained a full and complete line of lenses and shutters, including "Volute," the new and improved shutter just placed on the market. A number

of very handsome prints from prominent workers all over the United States were upon the walls and attracted much attention. Proofsheets of the new catalogue were distributed from this booth, together with a new booklet on shutters. Copies can be had upon application to the firm at Rochester, N. Y. Mr. Moore commented upon the surprising demand for high-grade portrait lenses, there being many requests for information on this score during the Convention.

One of the finest lines of gold brooches, lockets and miniature frames shown on the Convention floor was exhibited by the well-known firm of E. F. Foley & Co., 281 Sixth Avenue, New York. This firm, being sole agents for Wightman & Hough Co., of Providence, R. I., whose name is synonymous for reliable goods, quality and novelty of design, fully warranted the assertions of the many enthusiastic photographers who saw the line. The exhibit was in charge of Mr. E. F. Foley himself, assisted by several representatives from the home office. Descriptive catalogues and other illustrated matter was distributed to all who requested it. Any photographer who did not attend the Convention can obtain copies upon application.

One of the most interesting personages at the Convention was Mr. J. F. Ryder, the first president of the Association. Mr. Ryder has in course of preparation a book on Photography, which is destined to have a large sale, especially among the members of the Association. An edition de luxe, limited to but a few copies, has already been almost exhausted. The regular edition will sell for \$2.50.

The well-known firm of Carl Ernst & Co., 154 East Twenty-third Street, New York City, makers of fine card mounts, had a full and complete line of novelties and standard goods upon exhibition. The exhibit was in charge of Messrs. H. Schmidt and Charles H. Kirschner. Samples of new goods will be cheerfully furnished by this firm to photographers requesting same.

Mr. M. M. Frey, 320 Broadway, New York City, who makes a specialty of high-grade card mounts and cases, exhibited the new Falk folder, a handsome creation in cloth and embossed in gold, for unmounted platinum prints, together with many other new and original conceptions. This exhibit was in charge of Mr. Frey himself.

J. F. Adams, a local supply dealer of Buf-

falo, exhibited a new light, burning kerosene oil. The light produces a light of six hundred candle power, and is sold for \$25.00. Descriptive matter will be sent upon request. A new ball-bearing print trimmer was another novelty offered by this firm. Price of these are \$1.00 by mail.

The principal attraction of the Eastman Kodak Company was the new Daylight Film Developing Machine, by means of which a corps of demonstrators developed roll after roll of film in broad daylight. The machine is extremely simple in construction, and can be easily operated. It will be placed on the market at an early date. Those in charge of the booth were Messrs. W. C. Dunyea, W. H. Robertson, F. K. Hart and J. B. Guthrie. An exhibit of Royal Bromide enlargements in handsome folder cases covered one of the walls of this, one of the most attractive booths at the Convention.

"Where the photographer leaves off we begin" appeared on a large sign in the booth of the Sprague & Hathaway Company, West Somerville, Mass., who make large colored portraits from negatives furnished by photographers. Mr. George W. Woodward, secretary of the Company, was in attendance.

E. B. Meyrowitz, 104 East Twenty-third Street, New York City, exhibited a full line of Carl Zeiss' Anastigmat lenses, for which he is the sole agent in the United States. The exhibition was in charge of Mr. C. D. Roy, who has charge of the lens department of this firm.

The Pingree electric flash lamp was exhibited by Samuel S. Pingree, of St. Louis. This new flash lamp attracted considerable attention because of the perfect manner in which the powder was ignited, the evenness of the illumination, and the great lighting power.

Dr. J. Meyer, 138 Fulton Street, New York City, maker of Carbo-Platinum, had on exhibition a large number of handsome prints made on his paper. Dr. Meyer was assisted in his work by Mr. G. H. Richards of Buffalo.

The Anthony & Scovill Company, of 122 Fifth Avenue, New York City, had on the wall a number of prints on Cyko, Royal, Actino and Monarch papers, manufactured and handled by the firm. A complete line of studio cameras and outfits also interested the photographers. The exhibit was attended

by Messrs. R. A. Anthony, W. C. Marshall, J. B. Pelgrift, J. C. West, A. C. Lamontte.

The booth of the M. A. Seed Dry Plate Company, St. Louis, was presided over by Messrs. E. A. Major, Ben Eichelman, John Montgomery and E. E. Shores. Mr. M. A. Seed was present in person, and was an interested listener at all the meetings. No exhibit was made, the booth simply serving as a resting place for the photographers.

The well-known frame manufacturers, the H. Lieber Company, of Indianapolis, Indiana, presented, for the consideration of the photographers, a very handsome line of high-grade frames. The display was in charge of Mr. Buehler.

President Bissell, of the Illinois College of Photography, Effingham, Ill., was busy at his headquarters explaining to the photographers and their friends the new scientific course, which has just been added to the curriculum. This course includes photolithography, halftone, newspaper illustrations, zinc etchings, astronomical, astro-physical and photo-micrography. This course also entitles the students to a life scholarship in the college.

The Morrison Photo Supply and Manufacturing Company, 545 Liberty Street, Pittsburgh, Pa., was represented by Mr. Morrison himself, assisted by Mr. R. R. Javens and G. Chilcote.

James H. Smith & Company, Chicago, exhibited the new Globe camera stand, in solid mahogany. This stand has many improvements, and attracted much attention from photographers, who attended the booth in large crowds. The new Silent Shutter, also manufactured by this firm, proved a popular attraction at the booth. The shutter is absolutely noiseless, and will undoubtedly prove popular with the professional photographers. Those in charge of the booth were Messrs. James A. Smith and C. B. Pinney. Mr. Pinney recently returned from the Pacific Coast after a most successful trip. F. W. Sevigny, the well-known maker of moist water colors, occupied a portion of this booth, and demonstrated the possibilities of his colors, exhibiting a number of splendid prints.

Among the new exhibitors at the Convention was the Rochester Optical and Camera Company. The principal attraction was an ingenious mechanical contrivance showing the automatic action of the magazine in the new

Snappa camera. A complete line of the cameras, manufactured by the firm was also shown and the booth was crowded at all times by interested admirers of the products of the firm. A special feature was made of advertising the new R. O. C. plate, and nearly every one at the Convention wore the button of the R. O. C. Company. Mr. J. H. Robertson, secretary and treasurer of the Company, was in charge of the exhibit, assisted by Messrs. Fred D. Morgan, R. L. Ennis, Martin Freidell, W. H. Allen and George W. Reilly.

The Ullman Manufacturing Company, of 338-342 East Fifty-ninth Street, New York City, who make portraits in water colors and enlargements of every description, porcelain miniatures, and frames, exhibited an interesting line of specimens, in charge of F. L. Gillette.

Rough & Caldwell, 122 West Twenty-ninth Street, New York City, had one of the largest exhibits on the Convention floor, exhibiting a full and complete line of plain and figured backgrounds. Especially pleasing was the line of light-colored grounds in water colors. These grounds are new and dainty, and are very attractive. Messrs. Rough and Caldwell were present in person, and were assisted by Mr. Charles W. Trembley, one of the best background men in the country.

The Wayne Chemical Company of Philadelphia was represented by Mr. F. W. Humphreys, who distributed to the photographers free samples and catalogues descriptive of products of his company.

The Quaker City Card Company of Philadelphia was represented by M. A. T. Gillbee.

One of the quietest and most comfortable booths on the Convention floor was that of the Hammer Dry Plate Company of St. Louis. Mr. Hammer himself, assisted by Bill Nye and G. H. Harkrader, were present to meet the photographers, and all who came were entertained in the most hospitable manner and presented with a copy of the little book, "A Short Talk of Negative Making," which is now in its sixth edition.

The display of Taprell, Loomis & Company, 418-420 Dearborn Street, Chicago, manufacturers of photo cards, was one of the best arranged in the Convention hall, and was presided over by Messrs. Taprell and Loomis, together with Mr. J. E. Brulatour. Linofil, a recent discovery in mount stock, formed the

interesting feature of the display. It is claimed by the manufacturers that this card is absolutely chemically pure, being manufactured of pure linen rag stock. The color extends through the card, and it is claimed that the beveled edges will not turn color or fade in the sun.

The Calkins Scenic Company of 207-209 East Sixty-third Street, Chicago, makers of backgrounds and studio accessories, was represented by Messrs. H. N. Calkins and W. A. Calkins who form the Company.

Mr. H. W. Kixmoeller of the O. H. Peck Company, Minneapolis, Minn., Mr. H. C. Sievers of Sioux City, and Mr. F. H. Lloyd, president of Zimmerman Bros., were some of the prominent western business men at the Convention.

The Cooke lens was shown by Mr. J. R. Taylor of the firm of Taylor, Taylor & Hobson, Limited, of Leicester, England. The focusing Cooke lens also shown is a recent development which enables the photographer, by a simple revolution of the front cell, to separate the front glass from the middle, and thus focus his lens without otherwise moving it. This invention is intended more especially for fixed focus hand cameras. Taylor, Taylor & Hobson are about to establish an agency in New York, under the direction of Mr. J. R. Taylor.

Mr. W. I. Scanlon, the well-known writer and advertising specialist, had a desk on the Convention floor.

The New York Dry Plate Company, of Guttenberg, New Jersey, was represented by Mr. C. W. Taylor.

The largest and most attractive display of card mounts on the Convention walls was that of the A. M. Collins Manufacturing Company of Philadelphia. A number of striking novelties in small cards for the general photographer tastily arranged on the wall afforded the ample force of attendants an opportunity to interest the throngs of photographers who passed through the booth. The display was in charge of Messrs. H. H. Collins, Jr., H. A. Stone, J. J. Hood, W. H. Taylor and Edward Cope.

The American Photo Supply Company of Three Rivers, Michigan, was one of the new exhibitors at the Convention. The goods shown consisted of photographic studio furnishings, including ornamental chairs of

every description, cabinets, stands and back-grounds. Several cabinets in oak, walnut and mahogany were particularly admired. The exhibit was in charge of Messrs. J. H. Pratt, assisted by E. E. Gephart, M. E. Parkam and C. S. Wilson.

The display of Mr. W. P. Buchanan of Philadelphia, was in charge of Mr. B. McCullum, who was constantly surrounded by large crowds of photographers interested in the demonstrations of the famous Luxo flash powder and lamps. Another attraction of this booth was the Maignen filter, for which it is claimed that it removes iron and organic matter in solution and in suspension as well as other impurities from the water. This filter should be a part and parcel of every photographer's outfit. It is inexpensive in price, and it will well repay any photographer to send for the illustrated circular descriptive of it.

As usual, the American Aristotype Company School was the center of attraction while the Convention was not in session. Those in charge were Messrs. Harry M. Fell, F. Hazlitt, J. Schafer, C. Kraus and G. Smith.

The exhibit of the American Aristotype Company occupied one whole end of the Convention hall and was handsomely decorated with palms and evergreens, with numbers of comfortable chairs and resting places. The following representatives of the Company were in attendance at the Convention: Messrs. Thos. Pattison, H. Arnold, Frank Doyle, W. Slater, C. L. Bouton, H. Cornish, J. D. Rice, R. W. Barbeau, F. Becker, C. H. Meacham, G. Blair, I. Latour, H. Smith, B. Krieger, C. L. Weed, R. Anderson, P. True and E. Mead.

The photographers represented in the display of photographs exhibited by the Company were: Jas. A. Arthur, C. M. Hayes & Co., D. D. Spellman, A. G. McMichael, Detroit; Chas. R. Quay, Flint; J. L. Paul, Port Huron; Wm. L. Smith, Saginaw; J. W. Rogers, Bay City; Vaughan & Keith, San Francisco, Cal.; Geo. Habenicht, San Francisco, Cal.; F. A. Webster, Oakland, Cal.; Knafl Bros., Knoxville, Tenn.; J. L. Cusick, Louisville, Ky.; W. G. & A. J. Thuss, Nashville, Tenn.; Pike & Johnston, Wilhite & Holloway, Indianapolis, Ind.; C. R. Reeves, Anderson, Ind.; Rice & Fromm, Klein & Guttenstein, Milwaukee, Wis.; P. H. Rose, Providence, R. I.; D. C. Beckford, W. H. Partridge, E. Chickering, Boston; H. N. Pierce, Sands & Brady, The Shepard Company,

Providence, R. I.; Will Armstrong, J. H. Garo, Boston, Mass.; F. Gutekuss, Gilbert Photo Company, Gilbert & Bacon, Harrison Krips, Sam. Gray, Philadelphia; J. F. Bryce, J. Kennedy, Toronto, Ont.; Chas. Walingier, Chicago; E. L. Fowler, Evanston; Tom Harrison, J. S. Windeatt, J. W. Gehrig, W. H. W. Jones, Chicago; C. W. Longdon, Jarus Weed, R. Coover, Chicago; Lee Bros., W. R. Miller, Minneapolis; J. R. Zweifel, Duluth; L. F. Jansen, H. D. Beach, Buffalo; Dudley Hoyt, Rochester; Targuharson & Withall, Smith Curry, Rochester; E. C. Dinturff, P. S. Ryder, John Winter, Syracuse; D. Rosser & Co., Pittsburg, Pa.; J. E. Giffin, Wheeling, W. Va.; Baker Art Gallery, Innis & Kiefer, Columbus, Ohio; E. Decker, J. F. Rychr, Horton & Co., Cleveland, Ohio; Theo. Marceau, Pach Bros., Sarony, New York; D. H. Anderson, A. F. Bradley, Dana Studio, S. Newman, J. Schloss, New York; F. T. Butler, Brooklyn, N. Y.; A. K. Peterson, Fitchburgh, Mass.; H. Scheree, J. C. Bushong, Worcester, Mass.; Chris. Johnstone, Hartford, Conn.; H. Randall, Hartford and New Haven, Conn., and Ann Arbor; The De Lamater Studio, Hartford, Conn.; F. H. Curtiss, New Haven, Conn.; J. Haley, Bridgeport, Conn.; F. W. Rice, Worcester, Mass.; W. M. Morrison, G. W. Longdon, Brand Studio, Root Studio, D. R. Coover, B. La Marche, Chicago.

The following members of the photographic press were present at the Convention: Mrs. Fitzgibbon Clarke, *St. Louis-Canadian Photographer*; George Gilson, *The Professional and Amateur Photographer*; F. Dundas Todd, *The Photo Beacon*; Thos. H. Cummings, *Photo Era*; John A. Tennant, *Photo Miniature and Wilson's Photographic Magazine*; Juan C. Abel, *Camera Notes*, and Carl E. Ackerman, *CAMERA CRAFT*.

One of the most prominent visitors at the Convention was Col. J. A. Ockerson of the St. Louis Exposition management. Col. Ockerson addressed the Convention several times, asking for the liberal support of the photographers.

Packard Bros., Boston, Mass., occupied the entire gallery with an exhibit of new ideas in backgrounds, embodying ideas treated in charcoal and crayon. These backgrounds are a distinct departure, and enable the average photographer everywhere to very closely approximate the effects recently introduced by Mr. J. C. Strauss, the St. Louis photographer, in his Lyttrit effects in portraiture.

A NEW JOURNAL

We are in receipt of the following announcement from Mr. Alfred Stieglitz:

In response to the importunities of many serious workers in photographic fields that I should undertake the publication of an independent magazine devoted to the furtherance of modern Photography, I feel that I cannot ignore the claims of the many friends who have supported my efforts in the past, and I have determined, in consequence of these expressed wishes, to begin the publication of *Camera Work*.

This magazine will be begun as a quarterly, and will be edited and published by myself, owing allegiance only to the interests of Photography. While the growth of an enterprise of such a nature must be dependent upon the support accorded it, it will, nevertheless, be my aim to make *Camera Work* the best and most sumptuous of photographic publications.

It is my intention to reproduce the best examples of all "schools," both American and foreign, in a style which will make the magazine of great value for its pictures alone, even to those who may not be interested in the literary contributions; but the latter will receive an attention not inferior to that accorded the illustrations.

I am already assured of the support of the most celebrated photographers, writers and art critics, such as Charles H. Caffin, A. Horsley Hinton, Robert Demachy, Sadakichi Hartmann, Eduard J. Steichen, Gertrude Käsebier, Frank Eugene, J. Craig Annan, Clarence H. White, and others whose names should carry conviction.

In undertaking this task I will have as editorial associates the aid of Messrs. Joseph T. Keiley, Dallett Fuguet and John Francis Strauss.

While binding myself to no stated size or fixed number of inserts (these factors being largely dependent upon the heartiness of the support accorded me), I guarantee that subscribers will receive a full equivalent of the amount of their subscription, which has been fixed at three dollars and fifty cents per annum for the United States and Canada, and four dollars for other countries. Single numbers will cost from one dollar upward, dependent upon circumstances.

It has been planned to issue the first number of *Camera Work* some time toward the close of the present year.

ALFRED STIEGLITZ.

New York, August 25, 1902.

THE AMATEUR AND HIS TROUBLES

BY FAYETTE J. CLUTE

MAKING USE OF SPOILED PLATES

It is not such a far cry back to the time when a title like the above would catch my eye at once. The subject interested me, but the various uses proposed all fell short of my idea of practicability. It is hardly worth while to mention them all here, as the most of them would only suit the modest amateur who was making 4 x 5 prints from 8 x 10 negatives. If you are doing that you can easily clean off the film and use the glass to make passe partouts. The most practical suggestion I remember was to remove the image with Farmer's reducer, sensitize the film with the ordinary blue-print formula and make blue transparencies of them. If you think you would like to try this method of using them up, by all means do so, but before congratulating yourself on the results take the trouble to compare them with a transparency on a regular transparency plate. The regular plate costs more, but a person does not as a rule wish to possess more than a few dozen of this particular form of ornament, and the additional cost of a good transparency plate will hardly induce one to use such a poor substitute, particularly as the use of a few dozen is but as the withdrawal of a drop from the bucket.

It was while trying this last suggestion that the idea came to me to find a use of my own for these spoiled plates, and now every time I put a plate in the developer I carry the process right through to the end, regardless of how badly light-struck, out of focus, moved, under-exposed, or over-exposed the plate may be. Even if it has received no exposure at all through being in doubt after returning one slide without reversing it, I carry it through, fixing and washing as carefully as I do my most-prized negative, and right here lies the secret of making these spoiled plates of value to their owner. Wash well.

Every amateur photographer takes some kind of a photographic magazine, borrows it from a friend, reads it at the camera club, or sends for a sample copy once in a while. At any rate he has not long to wait before some one tells in a few — more or less — well-printed words how to reduce excessive con-

trasts in an under-exposed negative; how to remove fog; how to do this, that, and a thousand other things that one would like to do, but from never having tried it, fears to risk the result on some negative that he values. You will find directions how to strip the film from a cracked glass and float on to a new support. How to block out the sky of a negative; how to paint in clouds on a thin sky; how to reduce locally; how to use a knife in retouching; how to title negatives so as to make the titles print white; how to write with a reducer on a dense portion of the negative and have the title print dark on white ground; these and hundreds of other things are described in the magazines from month to month, but how many profit by them? Very few, I fear.

The time comes, and comes quite often, when we would like to employ one or the other of these many processes, but they are not to hand, or, if so, like all written descriptions of photographic processes that are made full enough to be valuable, they seem complicated to the uninitiated. The careful way in which the chances for failure are pointed out makes their results seem problematical instead of, as they are intended to do, insuring success the more fully by minimizing the danger of making a mistake. We do not wish to risk the damage that we fear may result, and for that reason do not give these most valuable aids a trial, feeling, no doubt, that we are not obtaining the best results from our negatives that are possible, but at the same time failing to realize the satisfaction we are denying ourselves by not being able to apply a few, at least, of these methods of improving our work quickly and with no fear as to results.

To get the full value of our "spoiled plates" and, incidentally, our time and labor, we must go about our experiments in a systematic manner. In recommending your favorite developer to a friend, you would hardly expect him to mix it up and pour it over the first exposed plate he happened to have and then condemn it because the negative that results is not as good as the next one developed with his own formula, regardless of subject, time of exposure or other conditions;

yet this is just about as rational as some conclusions I have found formed concerning various methods of improving faulty negatives that I have induced some of my fellow amateurs to give a trial. To explain just a little more fully and perhaps add to the value of this article by suggesting a line of experimental work, I will take the most common and perhaps most useful of the processes suggested and advise a course of study that if followed out would result in knowledge of no small value to any amateur photographer.

Directions for mercuric intensifiers are to be found in nearly all the plate makers' formula sheets, all the annuals, and, from time to time, in the journals. They vary somewhat in their composition, particularly in the blackening solution, but they all work on the same principle; namely, the image is first bleached in bichloride of mercury solution, then washed and the image redeveloped or blackened with some developer or blackening agent.

To show how misleading the amount of detail that is generally indulged in by these formula writers is, we will say, that the first or bleaching solution can be prepared by putting a small quantity of the bichloride of mercury in a bottle, filling it up with water and using as soon as enough has dissolved to make capable of bleaching the negative. The formulæ calls for a certain amount of water to an ounce of mercury, which is generally an amount just short of saturation, to prevent the danger of one's pouring undissolved crystals on to the negative, as they might do if using a saturated solution. Again we find bromide of potassium mentioned. This is added to prevent decomposition, which is liable to occur in an aqueous solution of mercuric chloride, if the water used is not quite pure and the solution is exposed to the light. Hydrochloric acid is added for the same reason, and by some is believed to ensure clearer shadows in the final results. Chloride of ammonia is also added, its mission being simply to increase the solubility of the mercuric chloride, allowing it to work quicker and more uniform.

We should not blame our formulæ writers for thus increasing the apparent complexity of these processes; rather, we should blame ourselves for allowing a few chemical names to frighten us out of giving such simple processes a trial, and with a supply of our "spoiled plates," we have more reason than before for self-condemnation if we fail to put

them to use in familiarizing ourselves with these processes.

Now, to get back to our stock of "spoiled plates," take one that is thin from over-exposure, free from fog or stain, and making a note of the fact, number it by scratching a number in one corner, and then proceed to intensify it. Do the same from one under-timed, but thin from under-development. Try one that contains some fog. Dip your finger in your hypo bath and allow a drop to fall upon the negative and dry there. Treat this one and note the effect of the hypo in the film. Try the effects of partial bleaching on a negative, the same as one of the others, so that the result can be compared with that obtained by complete bleaching. Note the difference in the time required to bleach a negative that has been treated to an acid-alum fixing bath to one fixed in plain hypo. See if the final results are as good. Try short washing after bleaching, and washing for a longer period. Ring in the changes that the different formulæ call for, keeping the negatives all numbered and making notes concerning the appearance of each one before treatment, as we can only make a just comparison of results by taking a print from them after they are washed and dried. Put a few of them, particularly those subjected to partial bleaching and short washing, in a box with the notes, and file away, to be examined at some future time as to their permanency. Try repeating the process on the same negative. Leave one in the blackening solution a couple of hours and note if it loses some part of the density gained at first, as is claimed it will do. Try placing the intensified and well-washed negative in the hypo bath and watching the result. Do these things and a few others that will, no doubt, suggest themselves, and I feel sure that when done you will not regret the use made of a few dozen "spoiled plates."

Kindly note that this company has amalgamated with the Gundlach Optical Company, of Rochester, under the style Gundlach-Manhattan Optical Company. Our Cresskill plant has been closed down and only remittances and correspondence concerning repairs and like matters should hereafter be addressed to Cresskill, N. J. All correspondence concerning orders, or inquiries concerning our line in the future should hereafter be addressed to the Gundlach-Manhattan Optical Company, Rochester, N. Y.



MOTHER AND CHILD

A PHOTOGRAPHIC DIGEST

BY H. D'ARCY POWER, M. D.

A NEW PRINTING METHOD

At a recent exhibition of the Paris Photo Club some prints were exhibited which are thus described by M. Demachy in the *English Amateur Photographer*:

"Amongst the pictures sent in were some extremely curious prints by Mr. Mahéo, of Morlaix, Brittany. There was absolutely nothing photographic in their aspect, the image was—apparently—produced by the etching process. The line and cross lines are very marked, of a deep, velvety black in the shadows, less prominent in the lighter portions, and the texture and quality of the whole have a close resemblance to those of an engraving. Indeed, at a short distance these prints will certainly be taken for etchings (dry points). It is only on closer examination, and in the least successful examples, that one can detect that the image is *followed*, but not traced, by the etched lines.

"These prints were hung at the entrance of the exhibition, not inside the exhibition rooms, and were not mentioned in the catalogue, the majority of the Photo Club Committee having considered that too much of their character was due to hand work to allow them to be shown side by side with photographs. This is open to discussion, and was, in fact, lengthily discussed before the vote of the majority settled the matter. My private opinion is that there is no more hand work on these prints than on those of Mr. Frank Eugène, or on most of the gum prints, not to speak of glycerine developed platinotypes and even of the virtuous bromide. But our readers will judge for themselves after having studied the following description of Mr. Mahéo's methods.

"An appropriate negative is chosen, such as would be capable of improvement by added or suppressed detail. From this negative a positive by contact is made, which is placed on a retouching desk, and studied by transmitted light. Then a sheet of grainless tissue paper is applied to the film surface, and the artist, according to his inspiration and training, etches out or introduces such additional emphasis or detail in black on the tissue paper, guided by the underlying image. When the desired effect has been obtained, the tis-

sue paper, carefully registered by the edges, is photographed—equal size—and from the resulting negative a glass positive is made.

"We have now two glass positives—one of the original negative and the other of the black lines which form the screen. The last of these numerous operations consists in copying with the camera, equal size, the first positive (picture) *through* the glass positive on which the original lines have been copied, this positive being in close contact with the sensitive plate. The resulting negative reproduces in their proper place the cross lines, dots, etc., that the artist has drawn in the first stage of the proceedings on the tissue paper, and if the registration is correct and the lines properly drawn the effect of a print from this composite negative is very striking, indeed.

"Mr. Maého uses salted paper; his results would be better if he printed on Artigue or gum bichromate paper. He needs also some further practice in etching; his lines do not follow closely enough the curves of his subjects, and his clouds are somewhat German in their heaviness; but, taken as they are, his prints are strangely fascinating—just the thing for the Dudley Gallery!"

THE TECHNICS OF CLOUD PHOTOGRAPHY

Commander Wilson-Barker's views, as mentioned above, may serve as a starting-point for a few notes on the work of others in connection with the inner technics of cloud photography. The premier work on this subject is one by Dr. Neuhauss, *Die Photographie auf Forschungs-reisen und die Wolkenphotographie*, a work which was published by Knapp, of Halle, in 1894. On page 24 Dr. Neuhauss refers to the considerable technical difficulty of securing the lighter and fainter cirrus clouds against a blue sky, as the blue sky overpowers the lighter clouds. He explains that an excellent expedient is to take advantage of the fact that the blue light of the sky is polarized, hence it is that by fitting a nicol prism in front of the objective, and adjusting this to the extinguishing position, the most delicate cirrus clouds may be photographed, as if against a dark background. Unfortunately, the present famine as regards

large and clear specimens of Iceland spar, makes suitable nicol prisms rather expensive, but anyone can adopt the plan of using a reflector of black glass at the polarizing angle, or, in some cases, the reflection of the clouds in a still pool of water may be photographed. Dr. Neuhauss then deals with the question of color-sensitizing plates specially for cloud photography, and the adjustment of suitable screens, a course which is eminently satisfactory, if the adjustments are correct. Dr. Neuhauss soaks ordinary plates in a solution of erythrosine prepared as follows: Stock solution, 0.1 gramme erythrosine in 50 millilitres of 95 per cent alcohol. For use mix 2.5 millilitres of the stock solution with 100 millilitres of distilled water and filter. The plates should remain in this bath for 60 to 70 seconds, the dish being constantly rocked; after which they should be drained for 10 minutes on blotting-paper and allowed to dry spontaneously. Dr. Neuhauss says that no yellow glass screens are satisfactory, as they allow too much of the sky blue to pass. Zettnow's copper-chrome liquid filter is recommended, as it cuts off the blue or violet completely. The liquid is prepared by dissolving 44 grammes of copper sulphate and 4.25 grammes of bichromate of potassium in from 250 to 500 grammes of water. Half a millilitre of sulphuric acid should be added. This liquid is used in a cell having optically worked sides and fitted behind the lens. With these plates and the liquid screen it is possible, according to Dr. Neuhauss, to secure those extremely fine cirrus clouds which are as a breath on the deep-blue sky; but the loss of light by the very strongly colored light filter is considerable, and an exposure of as much as two seconds may be required when slow lenses are used. Hence it is obvious that the modern rapid anastigmats may do good service in connection with the more difficult branches of cloud photography. The above definite instruction in the technics of cloud photography may be useful to many, and we may supplement it by a reference to Mr. Elsden's "*Traité de Météorologie à l'Usage des Photographes*," 118 royal octavo pages, published by Gauthier Villars of Paris. Mr. Elsden is an Englishman, and the substance of the book was first written in English. Dr. Carl Kaiserling, in his "*Prakticum der Wissenschaftlichen Photographie*" (p. 136 of 1898 edition), in explaining how fine cirrus clouds can be differentiated from the background of blue sky, after pointing out that yellow glass is unsatisfactory as a

screen for reducing the effect of the blue, says that a solution of picric acid or of Martin's yellow is fairly satisfactory; still, when the faintest cirrus clouds are to be rendered a distinct greenish element must be introduced into the light filter.

THE COOKE FOCUSING LENS

The normal Cooke lens consists of a combination of negative and positive elements, and is well known for its excellent qualities. The new lens marks a departure in hand camera lenses, for instead of focusing by altering the length of the bellows, objects are brought into focus by changing the focal length of the lens. This is effected by separating or approximating the negative and positive elements by means of a screw collar, on which the various distances are marked. In this way a $5\frac{1}{4}$ -inch lens that is at focus at infinity becomes a 4.92 in lens when focused for nine feet. The lens is an anastigmat working at f 6-3, and is said to suffer no loss of definition by these changes in the relation of its component parts. Furthermore, it is mounted in aluminum, and weighs but two ounces—so that altogether hand camerists seem to have come into possession of a good thing.

A NEW DEVELOPER FOR PLATINOTYPE FOR SEPIA TONES

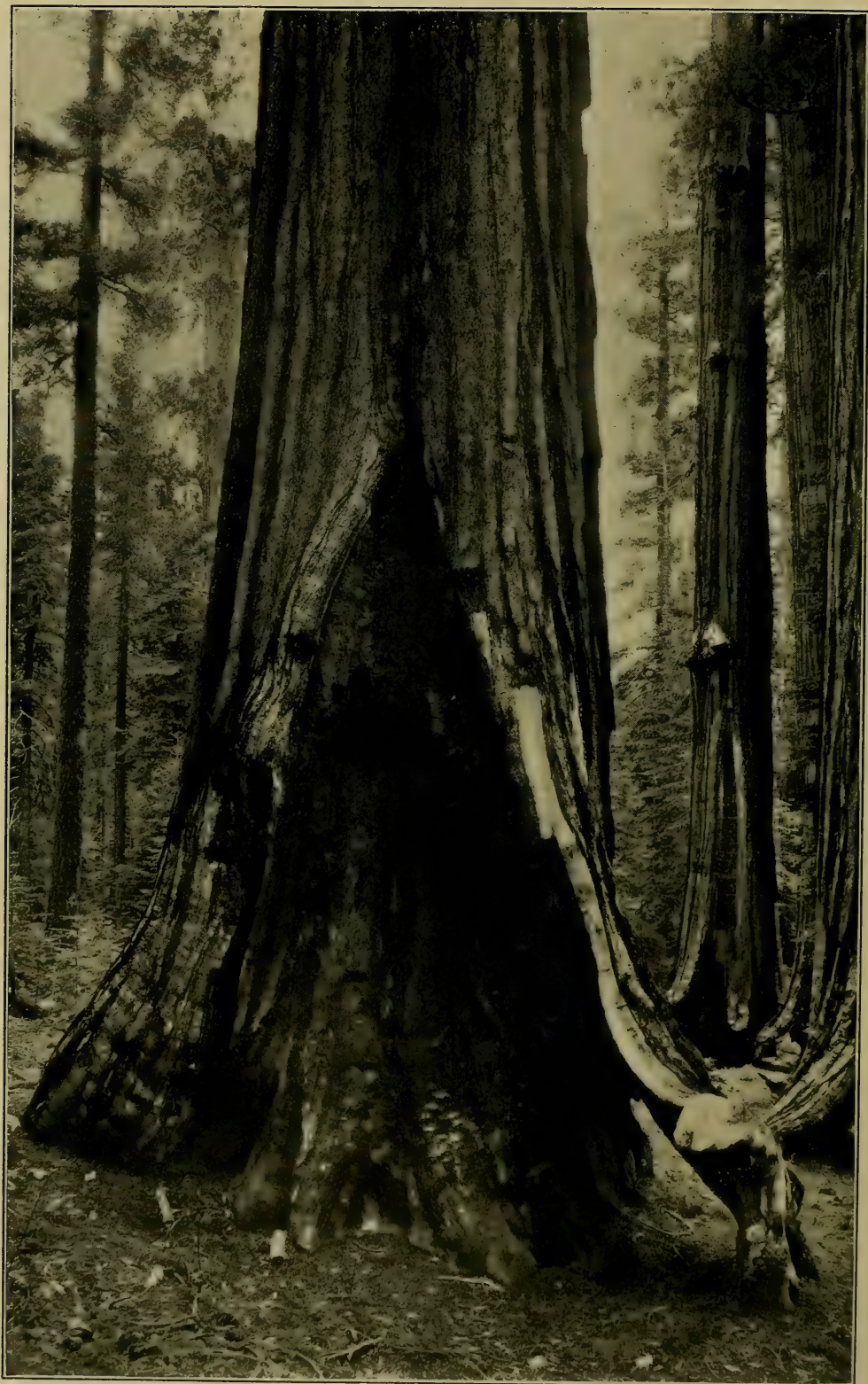
Most serious workers use platinotype at some time, and many prefer sepia tones. Recently Mr. Inston communicated a new developer to the Liverpool Amateur Photographic Association, which is stated to give a particularly fine and brilliant sepia. It is made as follows:

Neutral potassium oxalate.....	2 ounces
Potassium citrate.....	2½ drams
Citric acid.....	4 drams
Mercuric chloride.....	1½ drams
Cold water.....	14 ounces

Use slightly warm. Print deeper than for black tones, and clean in an acid bath of one in two hundred. The developer contains a red precipitate, but this does not affect its working.

PHOTOGRAPHING MACHINERY AND POLISHED OBJECTS

The above subject has been frequently dealt with in current photographic literature. *Photography* in a recent editorial made two suggestions, which are well worth reproducing. The first is that the surface may be easily and harmlessly dulled by exposing it alternately to the fumes of ammonia and hydrochloric acid. After photographing the



Courtesy Sunset Magazine

IN THE MARIPOSA GROVE

deposit of salammoniac is readily removed by a damp cloth. The second is as follows:

A method we adopted with complete success in lighting an instrument made for exhibition purposes, and, of course, brought up to a degree of polish quite unnecessary for ordinary purposes, was tested afterwards with equal satisfaction upon some small bronze statuettes. It may prove useful for other purposes when the original is not of an unmanageable size.

A cylinder was made of fine tissue paper, called by stationers "silver paper," and this was roofed over with another sheet of the same. The cylinder was much larger in diameter than the object to be photographed, and, of course, was made of several sheets of paper gummed together. Some care was taken to arrange these joins so as not to throw shadows on the work, but, except that it is not desirable to have one of them in the center of the main light, their positions are of little importance. A hole was cut in one side of the cylinder to allow the lens to do its work, and a sheet of cardboard of suitable tint was introduced to act as a background. The arrangement was placed upon a table, and this was altered in its relation to the window which was the source of light till the general effect desired was obtained. Supplementary reflectors, always outside the tissue paper cylinder, were found useful in softening the shadows on the side opposite the light, and for the particular object first attempted it was found necessary to interpose a small opaque screen between the light and the tissue paper, in order that by casting a shadow over a part of the framework it might throw into better contrast another portion of the instrument.

In using such a contrivance the direct light is softened and diffused, and even the deepest shadows are illuminated, though still softly, by the light reflected from the opposite side. The contrivance is neither costly nor difficult to arrange. In the case of a very large statuette or other object, a light framework might be necessary to keep the paper in shape, and a funnel-shaped extension from the cylinder to the lens might also be required. But such minutæ are not difficult to devise to suit special circumstances and emergencies.

PHOTOGRAPHING ILLUMINATIONS

San Francisco has had a number of beautiful illuminations during recent years, and will probably have more to come. Many

plates have been wasted in an effort to reproduce them. For the benefit of those that have failed, I append the following valuable instructions from the pen of Ellis Kelsey in the *Photogram*:

"You must use backed plates— This is necessary to prevent excessive halation. Roll films (unbacked) may be used, but are not quite equal to plates. Cut celluloid films, being thick, give considerable halation unless backed, although not so much as an unbacked plate.

You must have a firm support for the camera— In a crowd, a window-sill or ledge is sometimes better than a tripod, as the latter may easily be overturned.

You must give long enough exposure— Detail should be obtained to a fair extent, and not merely the lights.

You must guard against passing lights— These would utterly spoil the negative by leaving tracks across it; shield the lens by placing something dark in front while the lights are passing.

You should use the largest aperture of lens— *F6* is advisable, but *f8* is the largest in most cameras, and nearly all single lenses work at *f11* only.

You should use isochromatic plates— Halation is much reduced by these, and yellow lights are much better rendered.

You should expose at late twilight for views having great contrasts— If electric arc lights are included, late twilight is better than night for lessening halation, as the exposure is much shorter. Another point is that the buildings are outlined against the sky, instead of being lost as at night.

You should place the camera well above the crowd if possible.

You may use hand or stand camera with tripod— A fixed-focus hand camera does admirably.

SIMPLIFIED OZOTYPE

The Ozotype Company are about to place on the market a new set of materials and formulæ, whereby the following advantages will be gained:

1st. The acetic bath will not require any copper or iron salt.

2d. No heat will be necessary except in the case of rough papers.

3d. The first print will not need drying, but can be pigmented wet, nor will the plastered print require to be dried.

4th. The new acetic bath yields uniform results.

MARINE AND OTHER USES OF POLARIZERS IN CONNECTION WITH PHOTOGRAPHY

The mention in the preceding paragraph of the use of a nicol prism in conjunction with the lens may serve to remind us that glares of light arising from natural objects by semi-specular reflection, or by true specular reflection, are partially polarized, and as far as they are polarized they may be cut off or extinguished by the use of a nicol prism in conjunction with the lens. This idea was applied to practical photography about thirty years ago by Rood, and somewhat later by Traill Taylor. Thus, for example, a sparkling reflection often occurs in the case of foliage, when the leaves are large and smooth, and this may be eliminated by the use of the nicol prism. Another illustration is afforded by the use of the nicol or the tourmaline by naval men, as an aid in looking out for sunken rocks, a use rather neglected of late years, although common forty years ago. Thus, in the 1860 edition of "Pepper's Play Book of Science," page 349, we find the following: "A tube, provided with a polarizer of tourmaline, or a single-image nicol prism, is invaluable to the lookout at the masthead, in cases where vessels are navigating either in-

land or sea water, where the presence of hidden rocks is suspected, because the polarizer rejects all the glare of light arising from unequal reflection at the surface of the water, and enables the observer to gaze into the depths of the sea, and to examine the rocks, which can only be perfectly visible by the refracted light coming from their surfaces through the water." In these cases the nicol prism could be used in conjunction with the camera, and doubtless with advantage in many instances.—*English Amateur Photographer.*

In last month's editorial I called the attention of our readers to the value of record work. It is gratifying to notice that the journals are becoming alive to the importance of such photographs. Thus, *El Photografo Mexicano* contains an excellent photograph of one of their native monuments of Aztec origin; and the *New Zealand Weekly Press* recently reproduced a series of photographs illustrating the Vilavilavirevo or Fiji Fire-walking Ceremony. By all means let photographic journals give at least some of their space to the perpetuation of local conditions. They may not be appreciated at home, but they will be eagerly scanned abroad.



A ROAD OF SUNSHINE AND SHADE AT SANTA YSABEL, NEAR PASO ROBLES



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OCTOBER

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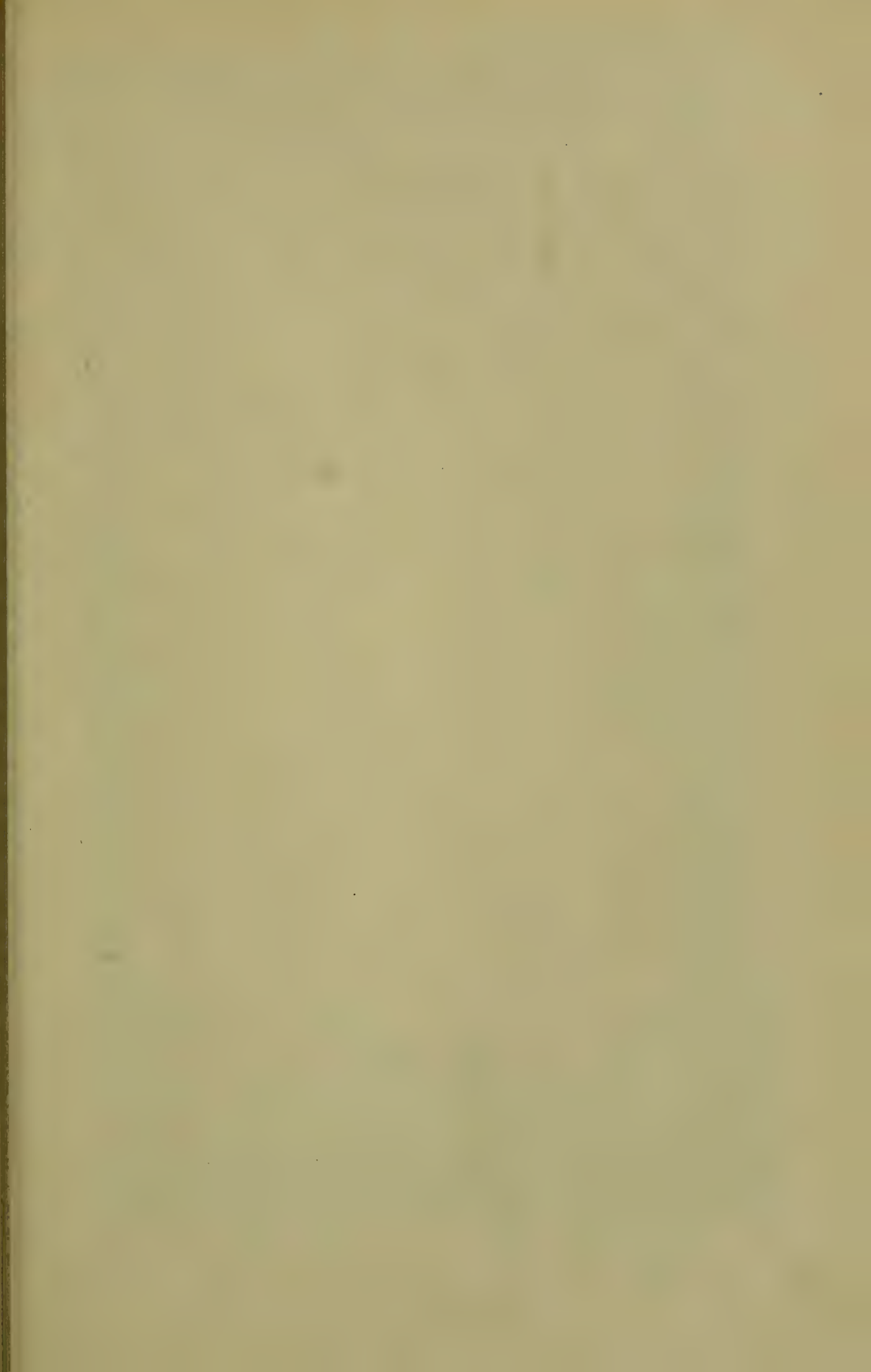
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CONTENTS, OCTOBER, 1902

COVER MINIATURE— <i>F. E. Monteverde</i>	
MOTHER AND CHILD— <i>Adelaide Hanscom</i>	
SOME POINTS IN PINHOLE PHOTOGRAPHY—A series of three papers—First paper— <i>Dr. H. D'Arcy Power</i>	FRONTISPICE
PROS AND CONS OF RAPID FIRE WORK— <i>Edward W. Newcomb</i>	213
LATE WORK OF SOME OF THE SAN FRANCISCO PHOTOGRAPHERS	216
A HOME-MADE TELEPHOTO LENS— <i>H. M. Hames</i>	219
PHOTOGRAPHING STATUARY— <i>Charles W. Canfield</i>	227
HINTS FOR PLATINOTYPE WORKERS— <i>Alvin Langdon Coburn</i>	231
WORK OF THE TACOMA CONVENTION	235
EDINOL FOR BROMIDES— <i>Dr. Georg Hauberrisser</i>	238
SOME MODIFICATIONS OF THE NORMAL PHOTOGRAPH— <i>George M. Hopkins</i>	239
THE AGFA REDUCER— <i>Professor Rodolfo Namias</i>	241
COMMENTS ON THE LONDON SALON	242
EDITORIAL	243
PHOTOGRAPHIC DIGEST— <i>Dr. H. D'Arcy Power</i>	246
AMATEUR AND HIS TROUBLES— <i>Fayette J. Clute</i>	248
	252





MOTHER AND CHILD
(from a gum print)
by ADELAIDE HANSCOM

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. V.

SAN FRANCISCO, CALIFORNIA, OCTOBER, 1902

No. 6

SOME POINTS IN PINHOLE PHOTOGRAPHY— WITH DESCRIPTION OF A NEW FINDER

A SERIES OF THREE PAPERS—FIRST PAPER

BY DR. H. D'ARCY POWER

From time to time my attention has been attracted by short paragraphs on pinhole pictures, but as I had never seen a photograph or reproduction having any pictorial merit, they made little impression on me. Some months back the *Photo-Miniature* published a number devoted to the subject, illustrated by a few pictures, which, the author stated, had been taken hurriedly, and without any pretention to artistic qualities; nevertheless, one or two possessed a subtle charm of atmosphere that impressed me with the notion that possibly pinhole work might be more than a scientific curiosity. I stuck a pin through a piece of black celluloid and took a shot through the window. The result was not a success, and I only mention it to warn others against haphazard work.

Recently a friend who had made successful pictures gave me a properly made No. 10 pinhole with which I commenced systematic experiments that have convinced me that in the production of most of the qualities that distinguish pictorial from technical Photography the pinhole is not only superior to the lens, but can never be equaled by the latter instrument. Apart from line and mass and values, which are largely matters of artistic judgment and selection, one of the greatest difficulties of pictorial Photography has been a satisfactory solution of the question of diffusion of focus. How to reproduce in a picture the various planes as the normal eye sees them, nothing microscopically sharp, nothing woolly? This the lens cannot do, and every attempt is a compromise. The *f*/60 men got everything sharp and lost aerial perspective; many of the so-called fuzzwuzzyists, going to the other extreme, produced results equally unpleasant. Sane workers stuck to the *via media* and attained a compromise, that, however satisfactory, was never ideal. With the pinhole, however, no such difficulty exists. With a proper sized opening, say a No. 11 needlehole, objects are just about as sharp as the average eye sees them, and allowing for aerial perspective, they are equally in focus, whether distant six inches or six miles.

The pinhole sees as the eye sees at its fixation point. This fact alone should give the pinhole a first place in the photographer's armamentarium. Some of the pictures accompanying this article well illustrate the point. Furthermore, the slight diffusion of focus natural to the pinhole is a great

advantage in taking sunlit scenes. I have been studying the rendering of sunlight for some time, and have had a much greater measure of success with the pinhole than with the lens.

I do not propose to go into the technique of pinhole work, which has been amply dealt with in the number of the *Photo-Miniature* already referred to, and also in a recent number of the *Photographic Times*, but I wish to draw attention to an improvement which, so far as I know, is my own, and is proving very useful to me. It is to be remembered that the image formed by a pinhole is too dim to be seen on the ground glass, and the picture has consequently to be centered by a finder. Various kinds have been proposed, but in my hands have not proved very successful. To judge accurately, a picture should be seen on the ground glass right way up and full size. Furthermore, the pinhole is equal to a battery of lenses of every possible focus, for the angle of view and the size of the object is dependent on the distance of the subject from the pinhole, and the length of focus is only limited by the length of the bellows and the patience of the operator. This power to change the size of the object by simply extending the camera is invaluable; but to be fully appreciated it must be seen on the ground glass, and this is what the view-finders, hitherto described, do not provide for.

The way in which I have solved this is as simple as it is effective. It is to have an extra pinhole of large dimensions to act as a finder. The image it gives is, of course, blurred in its finer details, but the masses are quite definite, more so than the image seen through an artist's blue glass. Therefore, when I wish to take a view, I get it on the ground glass with a bellows extension of, say, four



NO. 11 PINHOLE, TWELVE-INCH DRAW; EXPOSURE, TWELVE MINUTES



NO. 11 PINHOLE, TWELVE-INCH DRAW; EXPOSURE, FIVE MINUTES

inches. This, on a 5 x 7 plate, would be decidedly wide angle, and then rack out until it suits me. This may possibly be at an extension of fifteen inches, which, on a 5 x 7 plate, would be equal to a very long focus lens with a correspondingly narrow angle of view. It needs but one experience to convince anyone of what an immense advantage this is in composition. The most convenient form of using pinholes is to have a solid metal plate, turned to screw into the flange in place of the lens. This plate has a perforation in its center, over which a small disc bearing the pinholes can be rotated so that each pinhole can in turn be brought over the central hole. My disc bears six perforations, viz., needleholes Nos. 12, 11, 10, 8, and 5, and the large hole used as the finder, which is about a sixth of an inch in diameter. This is extremely convenient and cheap. It was made for me by Mr. H. Kuster of 220 Sutter Street, San Francisco, who has given me valuable assistance in working out various other mechanical devices. As a general thing, I have had the best results with the No. 11 hole. The accompanying illustrations bear particulars of lighting, bellows extension, and time that may be useful to beginners.

By reproducing the pictures of Edouard Steichen with an appreciative comment on them Mr. Ernst Juhl of the *Photographische Rundschau* engendered the wrath of a number of country supporters of the magazine, and as a result was compelled to resign his post. He will begin the publication of an annual of international Photography in December.

THE PROS AND CONS OF RAPID FIRE WORK

EDWARD W. NEWCOMB

Time and time again I have written feelingly against the practice of making too many exposures (I was going to write: taking too many pictures, but I respect the memories of the word picture) when on a photographic outing, a practice that we all know is so common as to be limited only by the purse of the photographer or the bulk of the material, and I have by no means been alone in my protests, some of the greatest authorities in this and other countries having been equally liberal in their denunciation of this practice, and indeed, are keeping at it still.

Knowing full well that one cannot take twelve or twenty or more real pictures in one brief day or part of day, I have added my note of protest, and still think it questionable practice, but there are usually two sides to any question, and while I have stoutly argued that some of our most renowned workers have often produced but two to four pictures in a whole year, the other side retorts, with reason, that they might have had two score if they had not been so abstemious in the use of the material they had and the scenes they came across daily, and moreover, that it is only by exposing a great many plates that the beginner obtains material to practice with. Considering the matter in a fair, unprejudiced manner, I think the following facts will be admitted, viz.: First, that ideas are not always at hand for such a picture as one feels he must make if he is to rank with the greatest pictorial photographers; and second, that if one has not yet had the necessary experience to afford him a feeling of security in all his operations, he must *get* that experience by actual work and a great deal of it. These two classes of men—the very advanced and the quite inexperienced photographers—can each hold their own in an argument on this question from their own personal standpoint. Let us leave both of these extremes out of the discussion and try to formulate some of the advantages, pro and con, of taking as many plates or films along on a trip and using them liberally on any seemingly good subject.

In the first place, what do we get by using up one, two, or even four dozen films or plates on a trip?

To develop one or two dozen exposures and get the best possible results, one knows how to get *experience*, and while a dear teacher, experience is something that all others yield to. What you know by experience is, so far as you personally are concerned, a trustworthy guide to future success. Only a very exceedingly stupid person would keep on making the same mistakes over and over again, and hence I take it one keeps his hand in, as the saying is, by exposing and developing so many plates or films. The most expert pianists, you know, have to practice every day to keep the skill they have gained. If one only exposes when he has a *chef d'œuvre* before his lens, there is a chance that he will lose it after all through not knowing how to time it or not being able to get the choice chemical effects that come from practice. We don't see masterpieces every day, and if we wait for them we might be in the position of the maid who kept her fresh eggs for a rise in the market—the eggs addled ere the market rose.

In studying the effect of color reduced to black and white, we need more

than the photographs of others as a rule to guide our own individual efforts. We see the colors, the contrasts of light and shade, then we set up the camera, and we perhaps see them again on the ground glass — at any rate we do in the finder — and we resolve to take that beautiful picture. Alas, how often we find that in the monochrome of a photograph our colors are poorly accounted for, and our contrasts of light and shade are not what they seemed to the eye.

I don't know any better, more practical way of finding out how certain colors, certain lights and shadows will render in the black, purple or brown of a photograph than by actual trial. It seems to be a case where theory does not aid enough, and plenty of practice is the real knowledge-giver. Then there is composition. We can study it to great advantage before we ever own a camera, yet at the same time it often happens that a photographer learns more about composition after he begins handling it in the finder or on the ground glass than he did when studying the old masters in school. It is more interesting to most people to study it in this way. The effect that lenses give, too, is best studied by actual exposure. One can theorize on the results $f/11$, $f/16$, $f/32$ will afford in the various makes of single and double lenses of different character, but this theory don't always teach us as much as the familiarity resulting from actual use does. From the few points outlined it will be seen that the rapid-fire man may not be such a fool as some say he is. He may turn out to know more than the other side if he keeps at it till he has satisfied himself of certain things, and since by this frequent exposing of plates he *does* sometime become well satisfied that this and that *is* possible while this and that again will *not* be, the rapid-fire method has possibly schooled him pretty well and, for the expense, he has a good, substantial grounding. I have not gone as deeply into his side of the matter as I could with more space at my command, but I am sure that some excuse may be found for his method at any rate, and that none will treat the method as harshly as they have.

Now on the other hand, the man who endeavors to make every exposure count as a very fine picture, who never, no *never*, exposes a plate to see how something he don't quite know about will turn out, this man will say, "Oh fudge, I grant you that the way to find out if a strange dog bites is to pull his tail, but while it may be all right if the answer is no, the results are very undesirable if it be yes." Taking a photograph should be like a perfect recitation of a previously well-studied lesson — one should *not* take a photograph just to see if it cannot be done, for he could very easily have read enough to know if it could or could not. The man who goes out with twelve plates or films in his camera should hardly expect to meet with that many such subjects for a picture as would be acceptable at a salon, because precedent teaches us that the exhibitors at these salons study and work very industriously to conceive so few as four or six, or even *one* worthy picture each *year*. It is not necessary to experiment after the moderate initial knowledge is acquired which will enable us to properly expose and develop our picture when it is at last found. We must then become more serious and cast aside all temptation to take *partially* perfect scenes. We know better and should not indulge in such low work, as it only retards final success. We must study the work of the masters in pictorial Photography; read our Robinson, Emerson, Abney and all good art books. There are enough and to spare lowering the standard of photographic art. It is

the duty of those who will, to attempt by very serious work, to *raise* it, and if possible, popularize it—a very self-sacrificing work at that. White, Dyer, Day, Steichen, Kasebier, Ben-Yusuf, are not understood by the masses; in fact, are understood by but very few, but however little, I understand much of their effort. I honor their devotion to what they deem a higher standard of Photography. The work of our most prominent exhibitors is *not* the result of a chance shot, but has been duly conceived and executed only upon the expenditure of deliberate thought.

Do not hope to become famous all at once or know all about Photography simply because you practice daily in a hit-or-miss style—practice all you need but *aim at a result each time*. The thing to do is to know what you are after; make a serious attempt to secure it, and if you fail, keep at it. It is true that out of many random shots some will hit the mark, but this idle shooting is beneath the dignity of the possessor of a brain; it is like the foolishness of the spendthrift who can at last only say of all that he had, "It is gone and I've nothing to show for it." The man who cannot realize the possibilities of Photography after seeing his first efforts and comparing them with those of Rudolph Eickemeyer, Jr., had better trade his camera for a dice box or a roulette wheel.

The camera really is not going to be much more than a fad with him, soon to lose its charm, and he might better burn his money in some really out and out idle, useless manner than waste his time chancing it. The man who buys a camera merely to find out its possibilities will become acquainted with them in a few brief weeks. Then it is up to him to give the noble art as much attention as he would to ping pong, whist or chess, or else drop it. The poor player of these games will be beaten so often that he soon makes up his mind to do one or two things—quit or learn how. Why is it that the amateur photographer does not do the same? Because, I fancy, he finds that one could live a lifetime over twice and not be able to satisfy himself that he could not do a still better picture than his best, because art is a jealous master, absorbing all of one's time and interest, and causing its adherents to deny themselves nearly everything else. The reason the rapid-fire man does as he does is that he is *afraid* to follow where he knows the path leads to; it will be too hard work, though the satisfaction to be derived from the higher art moved, he will admit, be sublime.

The pursuit of high ideals in Photography is far happier than miscellaneous popping about in an ambiguous way. It is indescribably satisfying, even though its end is not in sight, though triumph may not come to its most devoted student; it is not play, but a grand work, a refining influence, a constant new song, an effort *which* brings knowledge of higher things. More might be said on either side. The argument is still open. I have only said a little for each. The argument is probably as good for one side as the other, and adherents of each may claim that their stand is the correct one.

The members of a High School Board in England recently selected a school-marm who, instead of personally attending the meeting, sent her photograph. There were two other candidates present, but the photograph prevailed.

LATE WORK *of* SOME
of the SAN FRANCISCO
PHOTOGRAPHERS

Arnold Genthe

W. E. Dassonville

Adelaide Hanscom

Hanna Robison

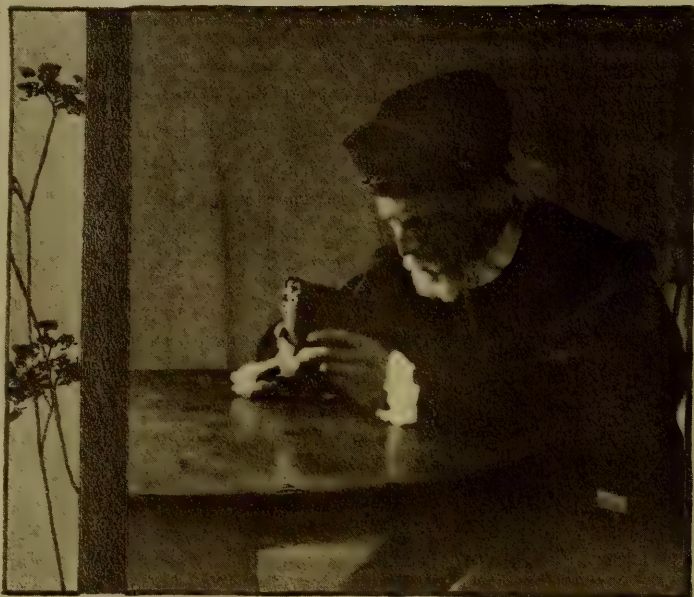
Oscar Maurer



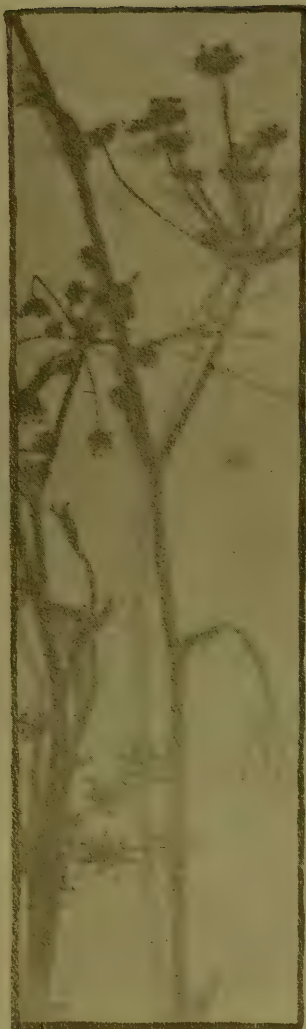
APPROACH TO THE CATHEDRAL
by ARNOLD GENTHE



PORTRAIT OF O. V. LANGE
by W. E. DASSONVILLE



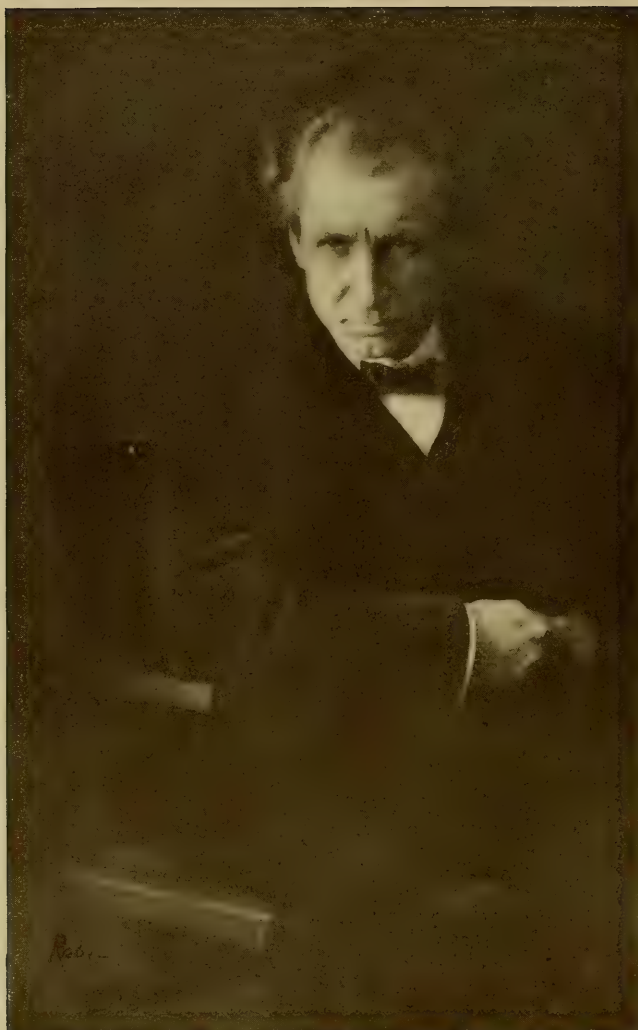
Filled is Life's goblet to the brim;
And though my eyes with tears are dim,
I see its sparkling bubbles swim,
And chant a melancholy hymn
With solemn voice and slow.



Above the lowly plant it towers,
The fennel with its yellow flowers,
And in an earlier age than ours
Was gifted with the wondrous powers,
Lost vision to restore.

It gave new strength, and fearless mood,
And gladiators, fierce and rude,
Mingled it with their daily food;
And he who battled and subdued,
A wreath of fennel wore.

Then in Life's goblet freely press,
The leaves that give it bitterness,
Nor prize the colored waters less,
For in their darkness and distress
New light and strength they give.



PORTRAIT OF GEORGE WILCOX
by HANNA ROBISON



THE COCK-FIGHT
by OSCAR MAURER



PORTRAIT OF L. MAYNARD DIXON
by W. E. DASSONVILLE

A HOME-MADE TELEPHOTO LENS

BY H. M. HAMES

How frequently it occurs, that, owing to the distance of the subject, we get disappointingly small pictures when using a lens of the usual focal length. Given one of the modern lenses, with the possibility of taking advantage of the extra focal length of the single combination, the results are often far from satisfactory. On the other hand, weight and bulk are against the use of a lens of the necessary focal length to give a picture of the required dimensions.

It is here that the telephoto attachment steps in and solves the problem.

The double conclave monacle used in this way does not give the saving in extension of camera, nor the magnification of image, that the scientifically made and highly finished lens of the optician does, but it makes a very efficient substitute where no very great enlargement is demanded. With the usual telephoto attachment, the range of magnifications and focal lengths is obtained by varying the distance between the negative and positive lenses.

While with the monacle that course can be followed also, I have found it more satisfactory to use two or three monacles either alone or in combination, in the same position, viz., close up to the back combination of the positive lens.

Below will be found a table of the different magnifications (and camera extension required) given by the monacles, singly and in couples, which I found most useful with a five-inch Euryscope, on a quarter-plate. They were numbered, when bought, 4.50, 24 and 36.

Lens and Monocle	Extension	Magnification (diameters)
Euryscope alone - - - -	5 ins.	1
" + monacle, 36 - - - -	5 $\frac{3}{8}$ "	1.14
" + " 24 - - - -	5 $\frac{3}{4}$ "	1.25
" + " 4.5 - - - -	8 $\frac{3}{4}$ "	2.07
" + " 24+36 - - - -	6 $\frac{3}{4}$ "	1.57
" + " 4.5+36 - - - -	11 $\frac{1}{2}$ "	3
" + " 4.5+24 - - - -	12 $\frac{3}{4}$ "	3.5

Extension measurements taken from Iris to ground glass.

These gave me a battery of lenses having foci of (roughly) 5, 5 $\frac{3}{4}$, 6 $\frac{1}{4}$, 10 $\frac{1}{4}$, 7 $\frac{3}{4}$, 15, and 17 $\frac{1}{2}$ inches, the greatest extension of camera required being 12 $\frac{3}{4}$ inches. The focal aperture of the telephoto combination is found by multiplying the aperture of the positive lens by the magnification.

Thus $f/11$ of the positive lens, used with monacles (or negative lens) giving three magnifications, becomes $f/33$; it follows that the exposure is considerably lengthened.

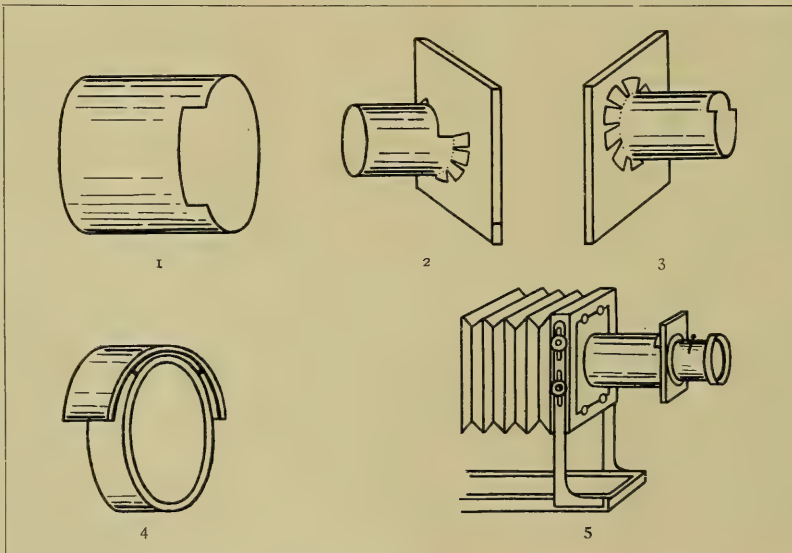
There is some loss of brilliancy in the enlarged image, and care should be taken in exposure and development to counteract this as far as possible.

The camera should be perfectly rigid, have considerable swing back and rising front, and have fairly long extension; the tripod, too, should be rigid. My camera had not sufficient extension to allow of the use of the monacles giving the greatest magnification so that it was necessary to supplement it

with brown paper tubes, in the manner hereafter described. The monacles each had a paper cell fitted to them. These cells were composed of pieces of pill boxes. The top was removed from one of the box lids, and the shallow cylinder remaining was cut until the ends just met round the monocle (as when measuring lens hood for a Thornton-Pickard shutter); then a similar piece was fitted inside this, but was narrower by the thickness of the monocle; the outer ring was joined by a strip of gummed paper which went all round and was a little wider than the cell; the inner ring was glued in, the monocle put in position, *i. e.*, flush with one end of outer ring, and the overlapping gummed paper brought over on to the front of the monocle (having been cut with the scissors to permit this). All three monacles were treated alike.

To carry the cells, another ring of pill box was made, wide enough to hold any two of them, and in which they fitted tightly. Before fitting the extension to the camera front, it was altered so that the lens panel fitted with turn buttons top and bottom; an extra panel was also made, with a central hole large enough for one of the extension tubes to fit in tightly.

To make the tubes for the extension, one of which fits inside the other, first make a mold having the same circumference as the cell carrier (a mailing



Figs. 1, 2, 3, 4 and 5.—(1) Tube cut to admit monocle. (2) Outer tube as fixed to back of lens panel. (3) Inner tube is fitted to extra panel. (4) Light trap over monocle cell. (5) The attachment complete.

tube will probably do), then take a strip of brown paper long enough to go round the mold six or eight times, and as wide as the tube is to be long; paste this well with thin glue, except the first turn, and roll it tightly round the mold, slip it off and set aside to dry. When dry replace on mold and use it as a mold for the second tube to be made in the same way of a suitable length.

In one end of each of these tubes cut a notch that will allow the cell carrier to slip in when that end of the tube is in contact with a flat surface (fig. 1). The tube, of larger diameter, is to be fixed to the back of the lens panel, notched end to the wood, by means of brown paper and glue. Take a strip half an inch

wider than the length of the tube, and long enough to go round it, with the exception of the notch; cut the extra half inch into a kind of coarse fringe; paste well and fold round the tube, letting fringe overlap; place in position on lens panel, taking care that notch is uppermost, and press the fringe into contact with the wood, so as to insure a good joint (fig. 2). Dennison Company's glue most useful for this purpose.

Take care that this tube is not too long, or it will cut off the corners of the picture, when using lens without monacles.



THE FIRST PICTURE WAS MADE WITH EURYSCOPE LENS IN ONE SECOND AT $f/11$. THE SECOND WITH THE AID OF THE MONOCLE, 4.50: TWO SECONDS



The other tube is to be fitted to the extra panel in a similar way, with the notched end away from the wood (fig. 3). Now fit a cap to the cell carrier so that light is excluded when the monacles are in position.

First glue on a piece of pill box the same width of the carrier, and as long as the notch in the tube on extra panel; then a shorter piece of the same width, and finally a piece both longer and wider than the notch in the tube on lens panel. This piece might be lined with velvet, and must be fixed so that one edge is flush with the face of the carrier which will be nearest the lens, when in position in the extension tubes, allowing the other edge to overlap and form a light trap (fig. 4).

In using the extension, the extra panel takes the place of the lens panel, with the tube pointing outwards. The tube on lens panel fits outside this and the required monacle is then inserted in the slot (fig. 5).

The tube on extra panel might be covered with velvet, to insure a good fit; all other parts, where necessary, should be blacked.

If the camera has sufficient extension, the tube on lens panel, but shorter, is all that is required, in addition to the monacle cells and carrier.

I feel sure that a monacle telephoto attachment, though possibly far from correct scientifically, will be found an extremely useful adjunct to the average amateur, particularly to him whose pocket is none too long.



DORIS AND HER MOTHER
by ELIZABETH FLINT WADE
and ROSE CLARK

PHOTOGRAPHING STATUARY*

CHARLES W. CANFIELD

Statuary makes a most attractive subject for the camera in all and each of the various forms and types which offer themselves; many are the attempts to do justice to the originals; only too few are the results which may be counted genuine successes.

Some of the reasons for this state of affairs are evident when the conditions are examined into. In these modern days it is one of the rarest things in the world to find a piece of sculpture adequately and properly lighted, at any rate for photographic purposes. The examples which are placed in the open are almost always located in conformity to the plan and orientation of the surrounding streets, buildings or plots.

The sides of the pedestal are made parallel to some real or imaginary border or axis; the front of the figure or group must face toward or away from the building with which it has relation—and all without a thought being bestowed on whether or not the prevailing light is a “trying” one. There are, consequently, many noble works of art to which it is impossible to render complete photographic justice in the locations where they are now placed, because the exactly right conditions of lighting cannot be secured from the view-point which best renders the sentiment or action of the work. But inasmuch as an important part of the training of a sculptor is devoted to the difficult task of making the lines of his figures “compose” from all sides, it is usually the case that the photographer can catch some aspect of the subject sufficiently well illuminated to make a satisfactory record when helped out by the imagination of the beholder.

Even in museums and art galleries the conditions are less favorable than one would expect, owing chiefly to the lack of room for using lenses of sufficiently long focus. Only in the case of the Venus de Milo, in the Louvre, are there no drawbacks, for this gem of antique art has a setting worthy of its fame, in a room at a corner of the building. Light comes from the ceiling, two long corridors lead into the room at right angles, with the Venus at the end of the vista; and an arrangement of rollers enables the statue to be turned on its pedestal, and thus perfect lighting in any position is possible. This accounts for the superb photographs of it, which are so well known, and which have in turn spread abroad its renown, so that in the event of a catastrophe to the original it could very likely be reconstructed from them. If only we might have had similar records of the Athena, of the Parthenon, and the host of other marvels of the ancients that we now know only by meagre descriptions!

It is a fact that Italy, both in classical and modern times, has devised and practised the most intelligent and suitable setting for detached sculpture, thanks largely to the mildness of climate and the art interest among its peoples. I shall never forget the impression made on an American acquaintance, who had preceded me to Florence, by the “Loggia dei Loanzi” and its contents. When he met me at the railway station he exclaimed: “Why, they’ve got figures here that at home we would lock up in a museum, *right on the street!*” And it really is a notable sensation to pass familiarly a dozen times a day this little mediæval portico and see the bronze Perseus of Cellini, with its companion marbles by Jean de

Bologna, Donatello, and other masters, where every one may touch, and yet unharmed by vandals.

The arrangement alluded to — the placing of statuary under a portico or arcade — was that adopted by the wealthy art lovers of classical times, who used it to adorn their luxurious villas. Most of our knowledge on this point comes from the so-called Villa of Aristides, at Herculaneum, which has been explored by a series of excavations, being now buried deeply under the ashes of Vesuvius. In addition to the usual living rooms was a spacious garden surrounded by a high masonry wall. On the inner face of this wall and a row of columns parallel to it, and distant about ten feet, was carried a roof — thus making an arcade surrounding



A PROFILE BY HANNA ROBISON

the open space in the center, where were placed fountains and large groups. Between the columns were pedestals for busts and small figures, while against the wall under the roof of the arcade other figures and groups found suitable lighting and background. Essentially the same plan prevails in the cemeteries of the large cities of modern Italy. The arcade becomes of rather more substantial construction, the columns being replaced by piers carrying arches; these piers are often wide enough to support tablets. Pilasters balancing the piers are made on the opposite inner face of the main wall, thus forming niches answering to the openings of the arches. Transverse arches are also thrown across under the roof, producing a vaulted or groined ceiling. Underneath, in the masonry of the foundations, are receptacles for the caskets, and the corresponding monuments are placed against the background wall and in the openings under the arches.

The "Campo Santo," or cemetery for Genoa, is located on a plateau among the Apennine foothills back of the city, in a suburb called Staglieno, and is one of the show places of the town. There are several courts, which have been added from time to time, opening one into another, and under the arcades are hundreds of sculptured monuments, tablets, figures, and busts, mostly in marble, although bronze and granite are also used. The intensity of the emotions expressed by the sculpture is most noticeable to the Anglo-Saxon visitor. The wife is portrayed at the sepulchre of her husband, holding the child so that it may kiss the father's portrait—every detail of face and figure and costume true to the life. Orphaned children kneel at the tomb of their parents; family groups



IN THE BARN

BY WALTER MARSHALL CLUTE

at the bedside of the departed are shown in full or partial relief. These marble figures are counterparts of many who still move about their customary vocations in the nearby city of the living.

Even when the personal motive gives way to the allegorical, nothing less than heavenly visitors in the shape of angels, usually with plummy pinions, find favor. And an occasional extravagance creeps in—like the figure of Father Time—represented as an old man of venerable aspect, who has paused in his flight through the ages to sit an eternal moment on the tomb of the man whose portrait is placed overhead, and incidentally become its chief decoration.

There are a few general suggestions to be made on the practical side, the outcome of some personal experience and of comparison of notes with other

workers. First as to the light. An overcast sky is better than bright, clear weather for taking open-air work; indeed, one of the best renderings of a marble statue that I ever saw was made in a slight rain that came on just as the object was reached after a long journey; the exposure was risked as a forlorn hope, but the result was most successful. The bright sun makes such strong contrasts between the high-lights and the shadows that it is to be avoided whenever possible. The ideal condition for a successful photograph of an outdoor group of statuary is when the sun, at just the right altitude to properly illuminate the subject, is temporarily obscured by a light cloud floating across it. Then the shades and the shadows blend softly into the lights without losing their proper relation each to the other. If one can choose his weather, such a combination is less difficult to secure than might be imagined. There are many days, particularly in the summer, when it is possible of realization, if one will only bide his — and Nature's — time.

A full exposure with comparatively small stop and on a slow rather than a quick plate is always desirable, developing for detail rather than for contrast. There are subtle relations of the planes of flesh and drapery in sculpture which must be suggested by the photograph, if it is to seem "round" and modeled instead of a mere silhouette, outline and nothing more. The snapshot and quick plate give the silhouette but not the roundness, and are therefore to be avoided.

A long-focus lens rather than one of short focus and wide angle should be used whenever possible, even if this involves covering a small plate rather than a large one. This is a point too often overlooked by "professionals," whose ambition it is apparently to make the object as big as possible on a given size of plate. But the foreshortening thus produced, especially of the pedestal and accessories, is so violent as to make the result seem distorted when wide-angle lenses are employed. And while we are accustomed to confine the term to architectural structures and landscapes, there is, nevertheless, a perspective to the human figure and to its representations, neglect of which is felt, even if not always understood.

A plea needs to be made against the practice of obliterating the background in photographs of sculpture. This gives the same effect as cutting out and mounting on black paper, and suggests the silhouette and flatness instead of the model and roundness. The value, for purposes of study, of many photographs of small sculptures in foreign museums is seriously impaired by this stopping out of the background. One is never certain whether an irregularity in outline is part of the sculptor's conception or due to a slip of brush or knife of the background "artist." Besides, there is a loss of scale if the objects which in reality surround the bust or figure are not included with it for comparison.

Naturally, works in marble and plaster require shorter exposures than bronzes, or the clay models one is sometimes called on to copy, often in the sculptor's studio. These last are the most deceptive of any, and it is a pretty safe rule to give all the time you think they can possibly require — and then give half as much again. Of course, these observations on outdoor statuary are applicable to objects of similar character, such as monuments, urns, fountains, and the like; although these, being much less complex in their nature, will not need quite the attention to details that is demanded by sculpture.

A FEW HINTS FOR PLATINOTYPE WORKERS

BY ALVIN LANGDON COBURN



THE OLD FISHING VILLAGE (from a straight platinum print)

BY GEORGE M. CROWE

Of all the numerous printing papers that have been placed on the market in a commercial form in recent years, many have been complete failures, others have been but passing fads, dropping by the wayside; but it is a fact that the utility of platinotype has been established—the paper is with us to stay; and I think that I am safe in saying that it is one of the most popular and most widely used processes.

Of course, in starting one is liable to have a certain percentage of failures, but this is true of all things, photographic or otherwise. In many kinds of printing a good negative is essential to the making of a good print, but this is not so much the case with platinum. Authorities differ greatly as to what really constitutes a *good* negative; for, from quite defective plates one is often able, by the judicious use of glycerine and local development, to produce quite effective pictures.

You will notice that I have entitled these notes, "Hints for Platinotype Workers," but I must ask the "workers" to be patient with me at times while I go a little more into the details for the benefit of prospective beginners.

First, as to developers. It is my custom to purchase a pound package of potassium oxalate, and to dissolve the whole of it in thirty-two ounces of hot water. This is the normal strength for the developer, but it may be diluted if thought necessary. In this condition it will keep indefinitely, and it may be used repeatedly—in fact, until it becomes almost black, when it produces rich prints of a rather brownish cast, very pleasing for architectural subjects, as the tones are what we often see and admire in fine old buildings.

If a cold print of a bluish cast is desired, such as a snow scene or a marine, the addition of a few grains of potassium phosphate to a trayful of developer will produce the desired result. Of later years a great many sepia

prints are to be seen in almost all of the salons. These prints are made in a number of ways. There are a number of prepared sepia papers on the market, but I have never heard any one speak of them in terms of commendation, for the keeping qualities are not good, and the manipulation is rather difficult. All this we could stand if the results were good, but they are not. Therefore, all that I will speak of hereafter will be the "cold development" black papers.

There are, to my knowledge, only two good ways of making sepia prints on the "black" papers—one by uranium toning, and the other by the addition of four grains of mercuric bi-chloride to the ounce of oxalate developer. This, I think, is, on the whole, the most satisfactory method, giving prints of great richness and depth, not to speak of their pleasing color. In using mercury, the developer should be heated almost but not up to a boiling point, as boiling produces an injurious sediment which will utterly ruin an otherwise excellent print. In working with mercury, never use the tray for anything else. This is important. By no means fix black and brown prints in the same acid, or even wash them in the same water, or disastrous streaks will be the result. A porcelain tray, with handles, is the best and most convenient, and it is almost necessary to handle the print with wooden "clips," on account of the high temperature. Mercury prints need very little fixing, only one bath and that very weak. A few drops of muriatic acid in a 11 x 14 tray three-quarters filled is ample.

If any one is in doubt as to the permanency of prints made in this manner, I have had one for two years hanging in a place where the sun shines on it for a large part of the day, and while the mount has changed about two tones, the print still holds its color. A very little practice and the observance of the simple rule of printing for the detail desired in the highest light will enable any one to accurately gauge the printing. I think that at first a person used to papers giving a more visible image in the printing is inclined to slightly over-print.

The print should be immersed in the developer face down, the best way being to hold it by each end, and slide it under the solution to prevent air bells. It may then be turned over and the development watched. A properly-timed print may be developed for as long as two minutes without harm—in fact, in many cases it is well to do so—but the usual time is from one-fourth to half a minute.

Now we come to what is to me one of the most fascinating possibilities of the process. I mean local development by means of glycerine. The necessary implements are as follows: Three small cups, a few suitable brushes, glycerine and the oxalate developer. Into the first cup place clear glycerine; in the second, half glycerine and half oxalate developer; and in the third, clear oxalate. Now take your print, which you have previously exposed to light behind a negative in the usual manner, and fasten it to a board with tacks at the four corners. Then with a large brush, or a tuft of cotton, cover its entire surface with glycerine from the first cup. Now comes the most interesting part. Slip your brush in number two, and quickly wash over such parts of the print as you wish to bring up, leaving the glycerine still covering such portions of the print to be subdued or eliminated entirely. You may then



FROM A MANIPULATED PLATINUM PRINT
by ALVIN LANGDON COBURN

finish up by using the contents of number three very gently and carefully, and afterwards fixing as usual.

Very charming things in two colors may be made by mixing a fourth cup of oxalate and a few grains of the mercuric bi-chloride, and using it for the flesh tints of a portrait, and the black oxalate for the drapery. Blotting-paper is good to remove superfluous glycerine, so that the developers may act more quickly, and in the two-color work it is absolutely necessary to enable one to keep the colors from running together. I have always found it advisable to use the mercury first, as then you can cover up the bad edges with the black. Landscapes are also often charming when so treated, and perhaps best to experiment with.

Almost every one has had, at times, negatives with the contrast too great. Well, in such cases we have in old platinum a very good remedy. If you have no old paper, a few sheets left out of the can in a drawer over night will answer just as well. This is guaranteed to flatten the most contrasty negative in existence.

I have used all the brands of paper that I have been able to get, both in this country and abroad, and I find that each kind has good qualities of its own, and the advice I have to offer on the selection of a particular brand is to use them all, for each is in some special case the best.

To my fellow-workers in platinum I offer these few notes, with the hopes that they may be of some assistance in what is to me one of the most fascinating photographic printing processes.

WORK OF THE TACOMA CONVENTION

BY A REPRESENTATIVE

The annual convention of the Photographer's Association of the Pacific Northwest at Tacoma, September 17-20, was one of the liveliest yet held, the attendance being good and the interest displayed in the exhibition proper being even greater than that of last year.

The most important business transacted was the admission of Montana and British Columbia into the organization. Demonstrations and talks were given by Harry Fell and Frank H. Doyle of the American Aristotype Company; H. W. Oliver, Seed Dry Plate Company; Will Lussier, G. Cramer Dry Plate Company; William Helmquest, Stuparich Manufacturing Company; C. H. Ruffner, Collins Manufacturing Company, and others.

A pleasant feature of one of the meetings was the presentation of a gold-headed cane to A. L. Jackson, the retiring president. Mrs. Jackson was also presented with a token in the shape of several pieces of silver.

Salem was selected as the next meeting place. The new officers are as follows: Charles Butterworth, Portland, president; J. L. Phillips, Spokane, vice-president; M. Loryea, Spokane, secretary-treasurer. The following vice-presidents were elected to represent the various States in the Association: Oregon, C. L. Clevinger, Grants Pass; Washington, F. Seeley, Everett; Idaho, C. F.

Stamper, Boise; Montana, J. W. Britain, Kalispel; British Columbia, Jack Cavanah, Victoria.

Among the prominent photographers in attendance were:

A. L. Jackson, Tacoma; F. C. Plummer, Seattle; J. B. Hann, Whatcom; Kirk O. Seeley, Everett; Sue Dorris, Eugene, Ore.; Milton Loryea, Spokane; W. S. Gardner, Corvallis, Ore.; R. T. Parker, Baker City, Ore.; Mrs. R. T. Parker, Baker City, Ore.; W. J. Helmquest, San Francisco; J. M. McCaleb, Independence, Ore.; Ida B. Smith, Olympia; E. H. Paige, Olympia; C. S. Wheeler, Pendleton, Ore.; W. B. Rush, Clatskanie, Ore.; H. Erickson, Moscow, Idaho; C. M. Duball, Colfax; P. L. Hegg, Whatcom; F. Laschenkohl, Tacoma; Darius Kensey, Sedro-Wooley; W. A. Raymond, Maro, Ore.; Wm. P. Flannary, Goldendale; M. C. Hughes, Roy; Paul Lehman, Tacoma; H. W. Oliver, Tacoma; H. C. Myers, Boise; J. Savannah, Victoria, B. C.; P. M. Hofstaeter, Portland; George Braas, Seattle; F. A. Grimm, Mount Angel, Ore.; H. D. Grover, Mount Angel, Ore.; Carl Nordstrom, Salem, Ore.; A. D. Rogers, Olympia; Chris. Aerne, Portland; E. W. Moore, Portland; A. French, Tacoma; W. E. Wolff, Tacoma; E. C. Meyer, Seattle; Mrs. Adele W. Ashmunn, Enumclaw; C. W. Hanson, Genessee, Idaho; A. G. Churchley, Portland; J. C. S. Aune, Portland; Frances Scott, Port Discovery, Wash.; R. B. Sheane, Shelton; Joseph Kincaid, Tacoma; T. W. Gollman, Spokane; E. E. Retts, Snohomish; W. F. Snodgrass, Oregon City; Thomas Cromse, Salem; J. W. Tallman, Portland; Bart & Caldwell, Everett; E. E. James, North Yakima; Meiser, Vancouver, Wash.; J. W. Britain, Kalispel, Mont.; J. E. Asplund, Arlington, Wash.; Anna Willson, Seattle; H. C. Hayes, Portland; L. Hetzel, Port Angeles; R. R. Rogers, Olympia; Amelia Watkins, Olympia; Charles Bedford, Tacoma; V. L. Grinnold, McMinnville, Ore.; C. L. Clevinger, Grants Pass, Ore.; Mrs. C. L. Clevinger, Grants Pass, Ore.; B. L. DeLong, Tacoma; Frederic L. Wellington, Seattle; Will E. Rapson, Alameda, Cal.; M. E. Charleston, Seattle; Robert Burns, Colfax; G. M. Weister, Portland; W. P. Miller, Seattle; H. A. Rand, Blaine; W. M. Dummermuth, Tacoma; Chris. Campen, Tacoma; F. La Roche, Seattle; F. LaRoche, Jr., Seattle; A. Hanson, Puyallup; F. Bonell, Tacoma; J. P. Asbery, Tacoma; J. F. Foseide, Tacoma; Miss M. A. Wintler, Portland; C. A. Bushnell, Yakima; A. C. Carpenter, Tacoma; Miss S. J. McFarland, Seattle; M. B. Kirkpatrick, Whatcom; O. W. Pautzke, Ellensburg; W. F. Boyd, Seattle; T. Kajiware, Seattle; Carl Erickson, Seattle; Joseph Eggan, Seattle; L. Bardo, Seattle; C. W. Parker, Seattle; H. B. Petridge, Seattle; E. S. Curtis, Seattle; G. M. Lee, Tacoma; R. E. Dudley, Seattle; H. R. Hanna, Honolulu, H. I.; J. L. Phelps, Spokane; William Hessler, Seattle; Miss Sarah Grant, Seattle; A. L. Grinnell, Tacoma; F. J. Lee, Tacoma; E. O. Lynn, Tacoma.

EDINOL FOR BROMIDES

BY DR. GEORG HAUBERRISER

The growing popularity of bromide paper is no doubt due to its facility of printing by artificial light, the artistic platinum-like tone, and the ease with which good prints can be obtained even from inferior negatives. A faultless bromide print makes us dissatisfied with other prints of gray tone.

The pure black of the bromide, however, depends not only on the negative but on time of exposure and on development. In order to ascertain the correct time of exposure it is a good plan to make trial exposures on strips of paper exposed to a constant source of light, with the printing frame at the same distance. In all my experience of bromide printing I have found no better source of light than a stearin candle, which is practically constant, while the power of a petroleum lamp depends on the height of the flame, and the pressure of gas influences the power of a gas burner. Moreover, the comparatively low power of the candle makes it easy to time exposures correctly, the period running into twenty or more seconds instead of the one or two necessary for a brighter light. The only essential precautions are that the candle should not be used the moment it is lighted — one minute should elapse — and that it should be protected from draughts. In my experience an average negative requires about twenty-five seconds on Roto-graph paper at twenty inches distance from the candle, and with edinol developer.

Many claim for ferrous oxalate the premier position among developers of bromides, and it cannot be denied that it gives exceedingly fine, velvety blacks. On the other hand, it has many disadvantages, the chief of which is that the prized beauty of the blacks is only obtained with a fresh, unused and a fairly concentrated developer. In developing a series of prints the quality of the blacks falls appreciably after the third or fourth time, and a spiritless gray is produced. Many attempts have been made to prepare developers such as metol, amidol, etc., capable of giving this pure black tone, but none answers so well as the iron developer, which is exclusively, I note, used by one large firm making bromides wholesale.

In the course of some experiments on edinol, the new developer of the Bayer Company, Manchester, I find that bromide restrains only slightly, and gives a clear-working developer which does not produce hard negatives of the kind given by other reagents when bromide is added. This property of edinol led me to apply it to the development of bromide prints. I first ascertained that the addition of bromide does not raise the contrast in the print to any appreciable extent, by exposing fifteen strips of bromide paper under a scale of gradually increasing densities and developing in a solution containing 5 c.cs. of the commercial edinol liquid developer with 95 c.cs. of water (equal to 100 minims per 2 ozs.). Even with varying doses of potassium bromide the gradation of the strips remained the same, the only difference being the longer time of development with the same restraining solutions. I then developed a large number of bromides correctly exposed in the same developer, and obtained throughout the series equal tones and equally fine detail, the latter prints being in no way harder or otherwise different from the first. These special qualities of equal tone, equal rendering of detail, and equal gradation throughout the series of prints, give edinol, in my opinion, a superior position to any other developer for bromide work.

The image appears first of a grayish tone, the details and half-tones rapidly follow, and then the gray of the whole print develops into a pure, velvety black tone in the deepest shadows. Development of the prints first exposed lasted about three minutes; that of the later ones was continued until a pure black tone resulted, the time for which increased little by little, requiring at the end of the batch about fifteen minutes. With edinol, therefore, one can develop to a pure black in the deepest shadows without fearing a fogging of the high-lights or the choking up of the details in the shadows; if the latter takes place it is a sign that the exposure was too long. A simple rule in using the developer is to stop when a correctly exposed print requires more than eight or ten minutes; at this point throw away the developer and make fresh. With edinol, also, the after-development of the print cannot occur if it be transferred directly to the fixing bath, which should be of the acid variety. A mixture of hypo and potass metabisulphide is very suitable, as is also the usual hypo bath *plus* acetone-sulphide recently introduced by the Bayer Company.

The following formula I find to work well: Hypo, 2 ounces; acetone sulphite (50 per cent), $1\frac{1}{2}$ drachms; water, 20 ounces.

To sum up, we have in edinol, a developer for bromides which, given a fairly good negative and correct exposure, will supply a fine black tone and faultless high-lights without hardness or choking up of detail throughout a whole series of exposures.

SOME MODIFICATIONS OF THE NORMAL PHOTOGRAPH

BY GEORGE M. HOPKINS IN "SCIENTIFIC AMERICAN"

The amateur photographer begins with an ordinary camera, becomes dissatisfied and procures a better one, and frequently proceeds in the same manner until he is satisfied that he has secured the best instrument that can be obtained. It cuts the photographic image from the center to the edge of the plate with fidelity, and he derives great satisfaction in possessing as good a lens as can be made. But before very long he learns that a picture photographically perfect lacks a great deal in true artistic feeling and quality, and he begins to remedy the defects of the perfect lens by throwing the plate out of focus, or by using a larger stop, or both, and thus secures to some extent the broad effect that he has learned to admire.

In addition to following out these suggestions he may produce artistic effects in other ways which recommend themselves to the experimenter in Photography. One of the simplest methods of obtaining a soft, ethereal effect consists in interposing between the lens and the plate a piece of ground glass, glass coated with ground glass substitute, or ground glass celluloid, placed at different distances from the plate, according to the effect desired. A very good scheme is to withdraw the slide from the plate-holder and replace it by a slide of translucent ground glass celluloid, like that shown in one of the illustrations, taking care to exclude the entrance of light by changing the slides under the focusing cloth, the exposure being made through the ground glass celluloid. The resulting picture, whether portrait or landscape, is soft in outline and is possessed of mellow lights and shades. The finer details of the photographic image are omitted, and the much-desired breadth is secured. If broader effects are desired a square of finely ground glass can be placed in the camera within or inside of the reversible back. Of course, the farther the glass or celluloid is removed from the sensitive plate the more details are omitted from the negative. If it is desired to show more of the detail than is possible with a translucent slide of the kind described a thin sheet of crystal glass of the size of the plate may be coated with ground glass substitute and placed in the holder along with the plate, with either the film or coated side out, according to the effect desired. The ground glass celluloid when placed either side out in contact with the sensitive film produces a desirable effect. If it is difficult to get ground glass celluloid a piece of fine, thin tracing paper may be secured by its corners to a thin piece of glass (an old negative glass, thoroughly cleaned will answer). The effect will be quite broad if the glass side is placed next the sensitive film, and the negative will be very soft if the tissue paper is placed next the sensitive film. These interposed films absorb more or less of the light, and necessitate an increased exposure, but the increase is very slight and can be determined only by experiment in each case. A lantern slide produced from a negative of this kind, if well colored, appears on the screen more like a painting than a photograph.

Another peculiar effect is secured by placing over the sensitive plate a thickness of fine, thin muslin stretched over a frame of common tin, or thin brass plate, the frame being placed in the holder along with the plate. The

muslin should be wet when mounted and secured to the frame by stratenas or some other adhesive cement. Broader effects may be produced by removing the muslin screen to the reversible back.

Lantern slides printed from ordinary negatives through fine ground glass, or ground glass substitute, lend themselves beautifully to coloring, as they are broader and more like paintings than other colored slides.

A painter who dislikes to copy an ordinary photograph, on account of the difficulty of omitting detail, will find a copy of a good photograph taken through ground glass or tracing paper much more agreeable to follow than the photo with its many details. Half-tones may also be copied in this way.

This may seem to the ultra-photographer, who takes the greatest interest in sharpness, depth and multitudinous detail, as a retrograde movement, tending toward the degradation of Photography, but the true artist will find use for photographic pictures with reduced detail.

THE AGFA REDUCER

BY PROF. RODOLFO NAMIAS

During the last few years several reducing substances and liquids have been put upon the market and advocated, it being evident that the familiar formula known as Farmer's reducer is not adapted to the requirements of present-day Photography. The solution can only be prepared as required, and the action has far too much influence on the half-tones of an image. A silver bromide negative can really not be successfully treated with Farmer's reducer, owing to the almost complete loss of detail. Of the newer reducers ammonium persulphate, introduced by Lumière Brothers, is favorably known in that its action is to reduce great contrasts and produce a more harmonious result, for the reason that it acts chiefly on the denser parts of a negative. In cases where it is necessary to reduce a plate which has been over-exposed or over-developed it is necessary to use a reducer having a more general action than that of ammonium persulphate.

About the beginning of 1899 I recommended a reducer composed of permanganate of potassium and sulphuric acid, the action of which was about half way between that of ammonium persulphate and of Farmer's reducer. It does not spoil the half-tones as does the latter, and it is especially suitable for the reduction of over-exposed and over-developed negatives.

I have found that this new Agfa reducer of the Actien-Gesellschaft für Anilin-Fabrikation has the same advantage and characteristics as the permanganate reducer. The Agfa reducer is in the form of a brown powder, quite soluble in water, and is composed of a ferric salt and an alkali thiosulphite. Five grammes of this powder (the hollow stopper just holds this quantity) is dissolved in 50 cub. cent. ($1\frac{3}{4}$ ozs.) of soft or distilled water. The plate to be reduced must be thoroughly washed before putting it into the solution.

Reduction takes place slowly and evenly, and the negative is reduced without the detail being lost in the shadows and half-tones, unless the process of reducing is extended for an excessive time. Generally speaking, sufficient reduction will be attained in five to eight minutes.

COMMENTS OF THE LONDON PHOTOGRAPHIC PRESS ON THE TENTH ANNUAL EXHIBITION OF THE LINKED RING

The Photographic News—The "Linked Ring" professes to have established the Salon "for the purpose of exhibiting only those examples of contemporary Photography which *in their opinion* give evidence of personal artistic feeling and motives, *quite apart from* purely scientific and *technical considerations*. * * * So that as far as possible each exhibition shall represent *the best pictorial Photography* of its year." (The italics are ours; the ellipsis occasions no perversion of the significance of the "Forewords" to the catalogue from which we quote.)

From this it would appear that, in the opinion of the "Linked Ring," excellence of technique is no material attribute of the best pictorial Photography; the only quality essential in a work in order to entitle it to such description being "evidence of personal artistic feeling and motive." It would further appear, therefore, that visitors to this exhibition have no justification for expecting to find every work on its walls an example of good Photography as such, notwithstanding that "*Photographic Salon*" seems a promise to that effect.

This, if clearly understood at the outset, will explain much that might otherwise appear incomprehensible. When a frame is found to contain work in which no photographic excellence whatever can be detected, it may be instructive to search for that "evidence of personal feeling and motive" which the "Linked Ring" has discovered, provided that sufficient time for the quest can be afforded.

To put the matter plainly, the exhibition is one wherein much beautiful and interesting work is diversified by the inclusion of a good deal that is ugly and repellent and of some that is certainly devoid of technical excellence. And in these latter examples we are not always able to trace either "artistic feeling or motive." Rather, as it seems to us, should some of them be regarded as crude and commonplace "bids" for notoriety, and the exhibition gains nothing from the inclusion of such cheap and vulgar eccentricities. Two hundred and eighty-four works are catalogued. Eighty-four of these, at least, might be weeded out to the infinite gain of the exhibition in artistic standing and refinement.

To make Photography subserve the paltry aim of imitating the characteristics, and especially the defects, of other art processes is to degrade it. And we think the vulgarity of this aim is becoming widely felt, and that people are learning better than to suppose that they are praising a photograph by saying it resembles etching or brushwork or what not. Loyalty to this lovely medium recognizes that *when it is used for the rendering of subjects artistically selected or arranged to accord with its powers*, it is marked by qualities superior to—though differing from—those which characterize any other process whatever of pictorial art. Its deficiencies in certain respects are more than made up for by its powers in other directions, and its best productions illustrate the highest attainable perfection of monochrome.

We do not think the persistency with which the products of ingenious

eccentricity, of mongrel methods, and of affected mysticism are thrust upon public attention (not alone by Salon exhibitions) will do much harm. Not more, at any rate, than will soon be remedied by the influence of the beauty and the refinement of the "legitimate" work by artists who know how to use Photography as it should be used. The public is too often mistrustful of its own judgment in pictorial matters; but it has common sense, and the cultured classes seldom err in matters of personal preference.

The instructive and refining influence of a good picture seen day after day can hardly be over-estimated. On the other hand, daily familiarity with a grotesque or vulgar eccentricity undoubtedly tends to lower the standard of personal taste. Purchasers should bear this in mind, for life may be made nobler or the reverse by such daily association.

Photographers, too, would do well to ask themselves what *kind* of personal sentiment responds to the appeal of a picture. If the appeal be addressed to mere love of the marvelous or to any other of the more vulgar instincts of human nature, the work is unworthy of imitation. On the other hand, every man of really artistic temperament cannot but profit by study of that which his finer instincts assure him to be excellent. And there is so much that is truly excellent in the Salon that we think no photographer can afford to miss it.

Photography—Generally speaking, we may say the Salon this year does not offer the usual scope for merriment. Novelty mongers seem to be exhausted for the present. Even the wild mounting of past days seems to have settled into sanity. The greatest sins are committed in the name of light, and it appears that a long time must elapse before photographers recognize the claims of the sun in representations of natural scenes.

It is still possible in this gallery—supposed to represent the high-water mark of art among camera users—to find more than one case of a sunlit scene where hard, dark shadows are cast upon the ground from figures that have absolutely no glimmer of light upon them—mere black patches. Many of the snapshots show more real quality of light than the ambitious compositions enshrined in fine frames. We should like to know how many of these landscapes would have been accepted if the selecting committee had been composed of real landscape painters—say the members of the old Barbizon school!

The British Journal of Photography—In giving the opportunity of seeing what is being done outside our own country the Salon has always performed a useful function, and this year rather more than one-half of the exhibits are from abroad. It is, of course, difficult to generalize work proceeding from places geographically far distant from one another and subject to local influences which cannot be similar, but it is impossible not to recognize that there is a sentiment in natural British work which is characteristic, and which is entirely different from that of any other nation. It is a clean, healthy sentiment which finds no necessity for mythic suggestions, but it is not the fashion, and receives scant encouragement at the Salon. We do not for a moment wish it to be understood that we class all foreign work differently, but there is much of it in which there is very little to admire, still less to imitate, either in sentiment or in treatment. Photography is essentially the medium for realism, and to employ it when obscurity is necessary is to employ a medium

for the work in hand which is far from the most suitable. In giving undue prominence to work which is of a character that does not appeal to our natural instincts there is a danger of discouraging efforts to perfect methods of work on our own natural lines. In some branches of painting we have no reason to be ashamed of native achievements, and in Photography we have also a good record. To improve our system does not necessarily involve revolutionizing it.

It is clear that the Salon has passed the period when it had to rely upon extravagance rather than merit for the notoriety necessary for its existence. If we except the comparatively small proportion of pictures which probably owe their acceptance to considerations of policy or strategy, and those which there is reason to presume come into the same category, there is an almost entire absence of the commonplace stuff which used to form the padding of the exhibition.

The Amateur Photographer—All those photographic workers who have any desire to excel in pictorial interpretation with the media they have adopted, must at one time in their career come to a divided path, and it rests with them, and with their inclinations, to say which of the two roads they will traverse. There is the purist without inspiration, a Meissonier-like seeker after detail, aiming at the rendering of things as he thinks they ought to be, and as he knows they are. The school of the old Dutch masters had many followers, and the painter who modeled his methods on the lines laid down and adopted by them never left anything to the imagination. Technical excellence was the goal to be striven for, and the Spanish impressionists and the few enlightened geniuses who gave their masterly work that mysterious power that has come down to us through the ages ever fresh and ever wonderful, were looked upon by these detail-seekers, these Zolas of painting, as the more advanced seceders are looked upon today. Somebody has said, "Art is Nature seen through a temperament," but the purist in photographic art says, "Art is Nature seen through an optical lens," and he sees that what his lens sees is recorded on his picture. Now there are many who are denied the power of reproducing their brain pictures of Nature in any other way than by photographic means. It is not given to everyone to be a skilled worker with the brush or the pencil, but many are given the power of seeing the beautiful and reading between the lines of Nature's wonderful pages, and to them the value of expressing their visions by Photography is inestimable. And so the pilgrim takes the rougher road, risking the mysterious quicksands and the toilsome difficulties, facing the disappointments that beset the man who will not be satisfied with a little when he feels that in his heart of hearts he can do better, and so eventually he comes to the Photographic Salon.

Lord Curzon of Kedleston, the Viceroy of India, has decided that if the people of Great Britain cannot all go and witness the Durbar at Delhi, the Durbar shall at any rate be brought home for them to see, in the form of living pictures. The Viceroy has granted permission to the Biograph Company to erect its apparatus in the great arena where the grand Durbar will be held, and the only stipulation he has made is that the "machine" shall not be exactly opposite the vice-regal throne, which, however, is not the position which the "biographer" would choose.—*The Photographic News*.

CAMERA CRAFT

ISSUED MONTHLY BY
THE CAMERA CRAFT PUBLISHING COMPANY
114 GEARY STREET, SAN FRANCISCO

Entered at the Post Office in San Francisco
as second class mail matter

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VOL. V.

SAN FRANCISCO, CALIFORNIA, OCTOBER, 1902

No. 6

It is with befitting sadness that we note evidences of decay in the pages of the fine old *British Journal of Photography* (Vol. XLIX, No. 2211), whose regular visits have been a source of joy to the exchange editor these many moons. Think of finding this bon-mot sandwiched between a report of an exhibition at Cambridge and a letter from the Secretary of the London and Provincial Photographic Association:

A good story is going the rounds at present in which the Rev. F. C. Lambert is the central figure. Mr. Lambert, it seems, called one afternoon at Effingham House, Arundel Street, and on the doorstep encountered Mr. Brown. They entered the lift (beg pardon, the elevator) together, and ascended towards the top floor of the mansion. The lift (realizing, perhaps, that it had a clergyman on board) traveled very slowly and sedately. "I thought you advertised that this elevator was the fastest in London?" remarked Mr. Lambert. "*So it was,*" said Mr. Brown, who had had to stand the whole way up. The reverend gentleman's reply, if he made one, is unrecorded.

What a pity!

A most astonishing state of affairs is disclosed by the following paragraph:

A story having been circulated in the Camera Club to the effect that the price of afternoon tea was to be raised to sixpence, several prominent members are reported to have stated emphatically that they would sooner drink whiskey than submit to such an extortion. The momentary storm has, however, subsided.

What could the compromise have been? Gin fizz? But here is a lick at Dr. Grün that will doubtless be aired in the courts:

I hear a rumor that Dr. Grün is about to set up a portrait studio on each of the stations of the Underground Railway. The eminent optical worker's latest feat was to snapshot a negro in mourning walking through a mist at midnight. The likeness is excellent.

Even the far-famed Steichen, he of the twelve pictures, even he has been assailed. Listen:

A Parisian correspondent informs me that Mr. Edouard Steichen has organized a new artistic society in that city. The society is a delightfully informal one, holding its meetings (at which members' work is exhibited, criticized, and occasionally even admired) wherever it happens to find itself at the time. Mr. Steichen is, so far, the only member.

Here is a gem of purest ray:

It is incorrect to suppose that the photographs of lightning exhibited in the Scientific Section at the recent New Gallery show were merely negative prints from certain tree and branch studies at the Salon.

We are merciless and will keep the wires hot with this one:

In view of the fact that several more meetings are soon to be held at the Royal Photographic Society's rooms, I am thankful to be able to announce that No. 66 Russell Square has at last been connected by private wire with the nearest ambulance station.

But we could have stood all had it not been for this uncalled for slur at the great American language:

Another American visitor who recently quitted our shores was Mr. Yarnall Abbott. It is whispered that while in London he, conducted by one of our most prominent photographic lights, visited the Zoo, the R. P. S., Romano's, an A. B. C. shop, the Tivoli, Westminster Abbey, and other refined resorts of the metropolis. Mr. Abbott was overheard to pronounce the evening service at the Abbey "real bully," and although the meaning of this cryptic utterance may be somewhat obscure, everyone who met the speaker will agree that it was doubtless said in good part.

And this is the way the departure of a distinguished visitor is chronicled:

Mr. Holland Day has returned to America. The price of white stock scarves has fallen perceptibly since his departure. Mr. Day took with him some fine '86 platinotype with which to replenish his cellars.

Too bad.

It has been definitely decided by the powers that be to abandon the Salon for this year. This move is in thorough accord with the policy outlined by CAMERA CRAFT some months ago, and will undoubtedly result in a stronger and more interesting exhibition in 1903.

The Camera Craft Publishing Company has just issued a text book, *The A B C of Photography*, by Mr. Fayette J. Clute, of the CAMERA CRAFT staff. The book is excellently printed, and is the most modern of all the text books on Photography.

A PHOTOGRAPHIC DIGEST

BY H. D'ARCY POWER, M. D.

COPYING DAGUERREOTYPES

In recent times daguerreotypes have become something of a fad, so that the following method of copying them may be of practical utility to some of our readers:

"Some look upon the copying of a daguerreotype as being an exceedingly difficult thing, and we are frequently consulted on the subject, but it is nothing of the kind if one knows how to go to work. This is how to proceed: The daguerreotype image is of a most delicate nature mechanically, and for that reason the slightest rub with anything will remove the image, and when once that is done it cannot be restored, as many have found to their cost. Hence the greatest care is essential in handling these pictures when the protecting glass is removed. If the picture is in its pristine state, and is well secured to the glass, we should recommend the novice to copy it as it is, for if care is taken in the lighting, very good results may be obtained without its removal; not so good, it is true, as may be got when it is taken off, but all risk of injury in inexperienced hands will be avoided.

"We shall, however, assume that the picture has been taken out of its case and the glass separated. From this point the picture must only be held by its edges—the surface must not be touched, or marks will be left. All the paper with which it was cemented to the glass must be carefully removed both from the edges and the back of the plate. The next thing is to remove any particles of dust that may be on the surface of the plate. If the picture was well secured in its case in the first instance, and has not been taken out since, there will be no dust to remove. If, however, there is, it is best removed by blowing off with a bellows; if blown off with the mouth there is a risk of particles of saliva and moisture from the breath. It is sometimes recommended to remove any dust with a camel-hair brush, but this is somewhat risky, unless the brush be very soft and is perfectly dry, as also is the plate itself. If the brush be used, it is well to slightly warm the plate beforehand in order to get rid of any trace of moisture that may have condensed upon it, or the plate may be marked

by the brush. If the picture has been colored, the brush should on no account be used, as the coloring, like the image itself, is of a very delicate nature. It is simply dry color applied as a fine powder, and is in no way cemented, therefore it is liable to be disturbed even with the most careful brushing.

"All the dust being removed, the picture is ready for copying, and the result is entirely dependent upon the illumination of the picture. It should be secured to the copying board by drawing pins. But before this is done, if it be closely examined, it will be found that it looks better in one position than it does in others. In some it will often show minute lines left in the final 'buffing,' or polishing of the plate. When this is the case, the picture should be so affixed that the light used falls in the same direction as the lines, for if it falls at right angles to them they will be manifest in the reproduction, as well as interfering with the purity and depth of the blacks.

"Now for the illumination, upon which it depends. This should be with a strong, direct side light, and never with a front one. All the front light should be carefully stopped off, and for this reason. The angle of reflection always equals the angle of incidence, and it therefore follows that if the picture be lighted with a direct, or partially direct, front light, the reflections from the polished surface of the plate will be in the direction of the lens, and if, under these conditions, the image be examined on the focusing screen it will be found that it is weak, flat, and with no depth in the shadows. But if it be lighted at an angle, say of forty-five degrees, the reflections will be from a similar angle, and quite away from the lens, and then the blacks of the image will appear deep and pure. The best conditions are, perhaps, obtained when the picture is copied in an ordinary room, placing it at the side of the window, and close to it, with blinds pulled about half way down. The picture will then be strongly illuminated by a direct side light, while the camera is in a shaded position. If the picture be copied in the studio, similar conditions of lighting should be followed. We have produced very brilliant copies of daguerreotypes by

copying them in strong direct sunlight, and arranging them so that the rays fall at a very great angle on the picture. Success or failure in copying daguerreotypes depends entirely upon the lighting of them, and that is a very simple matter, if we bear in mind that, in all cases, the angle of reflection equals the angle of incidence, whatever that may be.

"As to the plates to be used, they should not be of the ultra sensitive kind; slow plates are the best for the purpose, and over-exposure should be avoided, or flat results will follow. It is always better to err on the side of under rather than over-exposure. A satisfactory negative having been secured, the next thing is to, at once, carefully restore the picture to its case, taking special care to secure it, the mat and the glass together with paper, as described in the previous article. This is a point that is too often neglected by some photographers who have valuable daguerreotypes brought them to copy, with the result that they afterwards quickly deteriorate, though they may have, previously, remained unchanged, perhaps, for fifty years. This neglect is highly discreditable to those who have highly prized pictures entrusted to them by their customers."—*British Journal of Photography*.

PHOTOGRAPHY OF THE NUDE

BY C. KLARY, PARIS

This, so far as we know, is the most important contribution to this subject that has yet appeared. It is a collection of some hundred reproductions of photographic studies of the nude by well-known workers, together with a series of essays, among whom are names as familiar and respected as Gleeson White, Professor Gustav Fritsch, Gabriely, and Will A. Cadbey. This is sufficient to prove that the book merits the earnest consideration of all earnest workers in pictorial Photography. So far as the letter-press is concerned, most of the writers have devoted themselves more to a justification of photographically depicting the nude than to an exposition of the technique employed. This is rather to be deplored, as the proper lighting of the human body, the subject of pose and spacing, even the mechanical factors of exposure and development, are things concerning which the average man knows nothing, and is not able to draw deductions from his general experience. All the writers are agreed as to the difficulties of producing works of art in this order, and Gleeson White most truly says: "The greatest difficulty is to find

a model with good features and an intelligent expression in conjunction with perfect proportions. So great is this difficulty, that one cannot reasonably hope to meet this ideal model except by a happy chance." That the happy chance is very rarely met is well attested by a large number of the reproductions in M. Klary's book. This is not said in dispraise, but as a simple statement of an almost necessary fact. The illustrations are well executed, and, as a whole, they justify the labor expended on them. Very many are of a high order of merit, and two or three may take their place in the realm of high art. We are glad to recognize the names of several prominent American workers, such as D. Lippincott of Los Angeles, F. C. Clark, J. Wells Champney, and Moreno. Many of the pictures show great simplicity and dignity of treatment, notably one by Oscar Köhler; "Finis," by Carlo E. Senson of Cleveland, and a "Marte" by Comte C. de Clugny of Paris. Taken as a whole, the book is a notable addition to photographic literature, for which the artist may well be thankful. The pruning-knife might well have been exercised a little more freely; but if some of the pictures show the dangers of the camera in this field, many others are a promise of what may be within our power and an incentive to further endeavors.

YELLOW FOG

Writing in the *Photographische Wochenblatt*, Professor Namias advises the following method to remove yellow fog from negatives: Bleach in two per cent mercuric chloride; wash; soak in solution of potassium permanganate acidified with sulphuric acid; wash again, and blacken the plate in a fifteen per cent solution of sodium sulphite.

KEEPING PLATINOTYPE PAPER DRY

It is not easy to over-estimate the importance of keeping platinotype paper dry, and especially if the paper is likely to be kept for a long time. The ordinary storing tube consists of three parts, which for convenience one may call the top lid, the bottom lid and center. In the bottom lid we have a store of calcium chloride, and its junction is usually covered with an elastic band. Now, as the bottom lid has comparatively seldom to be moved, it occurred to the present writer some considerable time ago that one might conveniently cement on the bottom lid to the center part with wax, and so help to keep moisture from finding its way along that junction,

at any rate. Experience has shown that this is well worth the trouble. Five cents' worth of paraffin wax (obtainable at the oil-shop) is put into a small clean jam-pot or handleless cup. This on the oven top quickly melts. A small camel-hair paint-brush is used to apply the melted wax rather liberally along the junction line of the bottom lid and central part.

Another Hint — One finds that presently the elastic band generally used to cover the junctions gets hard and loses its elasticity. In that case, try the effect of soaking it in fairly hot water for a few minutes. This may partly restore its elasticity by rendering it less hard, if the rubber be of good quality. If one band gets a bit loose and only a "mid-dling sort" of a fit, a second similar old band on the top of the first will often put matters right. Moreover, the double thickness of the two bands makes it easier to slip on and off the junction when required. — *English Amateur Photographer*.

GRADUATED LIGHT FILTERS

In a paper read before the British Royal Photographic Society (*vide* Photography No. 719), E. Sawyer Shepherd discusses the whole subject of relative exposure of sky and landscape, and makes the valuable suggestion of equalizing the illumination by means of a graduated light filter. He says: "The first filters I made were simply colored gelatine cast upon a glass plate in wedge form. By varying the amount of color in the gelatine, varying steepness of gradation may be obtained." Later Mr. Shepherd modified the shape so that instead of being a wedge, it curves rather abruptly about the center from the thick portion that screens the sky to the thin part over the landscape. This is so placed over the lens as to be readily adjusted so that the change in density shall correspond to the horizon line. This is very simple, and should give excellent results. It ought to be on the market.

TONING OF PLATINUM PRINTS

Dr. Chapman Jones, in a recent number of the *English Amateur Photographer*, writes on the above subject, with the very good advice to leave well enough alone. Nevertheless, he admits that for a few purposes changes in a platinum print may be desirable. "If, for example," he says, "it is desirable to make the detail of a picture more conspicuous — as might well be the case when dealing with a technical subject, getting a depth of tint ap-

proximating to that yielded by gelatine printing-out papers — then the waxing of the print may be distinctly useful. Any of the 'encaustic paste' formulæ may be used, applying the material to the mounted print by means of a piece of flannel with light rubbing motion, just as a French polisher puts on the final shine. I used to think that I was the first to indicate the occasional advantage of this process, but Mr. Herbert Berkeley referred to a modified and partial use of waxing in 1881. He suggested applying a solution of wax or paraffin wax in benzine, or in ether and alcohol, by means of a pad of cotton wool to the deep shadows only, and so giving them additional vigor. He specifies that the half-tones were not to be treated, and that the application was to be so sparing that even in the shadows the surface was to remain matt. But the best polish that can be produced with 'encaustic paste' will not equal the gloss of the varnish on an oil painting; and if the increased depth of tint is desirable at all, the high-lights may be improved as much as the shadows.

"It is easy to deposit a further quantity of metal upon the image of a platinum print, by adopting the same principle of procedure as in the 're-development' of a collodion plate, and in Wellington's silver process for the intensification of gelatine negatives, and in the ordinary process of depositing silver on glass in the making of mirrors. That is, a solution is prepared which is just about to give a precipitate of the metal to be deposited, but that will not deposit it without the additional disturbing influence of some slight stimulus. Just as strings stretched across a solution of cane sugar that is about to crystallize will become covered with crystals, producing sugar candy, so the platinum image of a print will determine the separation of the metal from a suitable solution, and the metal will deposit on the image approximately in proportion to the density of the image. Dr. E. Vogel stated, about fifteen years ago, that he had succeeded in intensifying a print by depositing more platinum on it, using a very weak solution of potassium chloroplatinite, to which was added a small quantity of ferrous oxalate developer to effect its reduction. But this process has failed in the hands of other experimentalists.

"The method of depositing gold we owe to Mr. A. W. Dollond. The moistened print is evenly smeared over with glycerine, using either the finger-end or a soft brush, and then a very weak and slightly acid solution



SUNSET, NEW YORK HARBOR

W. A. BOGER

of gold chloride is mixed with the glycerine by means of a camel-hair brush (*Journal of the Photographic Society*, N.S. XVIII., 190). The gold deposit is blue-black. All who have had experience with gold solutions will know that a very minute amount of gold in a soluble form will give a marked color or stain, and that the color will sometimes not appear for a long time, and may go on increasing for months. To avoid such a catastrophe, Mr. Dollond treats the print back and front with a metol developer before the final washing of it. This reduces any remaining gold compound to the metallic state. Silver may be deposited by the use of a solution of a developing agent, such as hydroquinone, pyrogalllic acid, etc., slightly acidified to retard its action, to which a little silver nitrate is added. The brownish-red ferrocyanide of uranium may be deposited by the use of an ordinary uranium toning solution, and this has been proposed as a substitute for the usual method of obtaining sepia prints. But this process appears to be of a very uncertain character, and it is natural that it should be so, because there is no specific reducing agent present.

"The substitution of other things for a part of the platinum has been carried to an extreme in the proposal that has been made from time to time to develop the exposed platinum paper with a solution of ferricyanide of potassium instead of the usual oxalate solution. This method would probably work better if there were no platinum at all in the paper, for it is a matter of the iron salt only. I have noticed a tendency sometimes to regard such prints as in some way superior to the common ferro-prussiate prints—with which, of course, they are strictly comparable—and I think they have been called blue

platinum prints. It would be well if all proposals to modify processes could be referred to some competent person before publication, so that absurd suggestions, and alterations that make a radical difference in the result, might be more fully described if they had to be published at all."

MATT SURFACE CARBON PRINTS

A writer in the above-mentioned English journal states that the gloss of carbon prints may be entirely removed by placing the print after the final washing in alcohol for ten minutes.

RESISTANCE VARNISH

To protect a darkroom bench most varnishes or paints are incapable of resisting the various substances which are spilt upon the bench. The following method gives a black polish, which shows a remarkable resistance even to the most active reagents. Two solutions are prepared thus:

A		
Water sufficient for.....	1	quart
Copper sulphate.....	4	ounces
Potassium chlorate.....	2½	ounces
Potassium bichromate.....	13	drains
B		
Water sufficient for.....	1	quart
Aniline hydrochloride.....	5	ounces

These solutions are abundantly applied at boiling point to the wood—A first, then a layer of B. It produces on the surface of the wood a crystallization which opposes the penetration of subsequent layers. A and B are alternately applied till a good thick coating has been given. After brushing off any crystalline deposit from the surface of the bench, warm paraffin and then vaseline is well rubbed in. The operation takes three or four days to be completely done, and when finished the bench should be left a like period before it is used.—*La Photographie Francaise*.

THE AMATEUR AND HIS TROUBLES

BY FAYETTE J. CLUTE

A FRUITFUL SOURCE OF PINHOLES

That the most of our pinholes come from dust on the plate, there can be no doubt. All the writers on the subject tell us as much. An article concerning them, in one of the journals a few months ago, was given the premier place, and yet it neglected to mention the most fruitful source of dust that might lodge upon the plate. One was told how to dust the plates—the holders, even the slides, were to be wiped off carefully on both sides. These precautions, and a few others, were described in the fullest detail, and yet no mention was made of the dust that the folds of the bellows are sure to contain. We rack the front into position, and in so doing set this dust in motion. If this is not enough, the carrying of the camera from point to point will do the work. The interior of a camera will collect more dust in a day's outing than will a plateholder in a year's time. The interior of the camera should be wiped out with a soft cloth after each day's use. The best way to do this is to put a little glycerine on a cloth, hang it up in a warm place for a few hours, when the distribution will become uniform throughout the fiber of the cloth, and then use this to remove the dust. It will collect and hold the dust much better than will a dry cloth, and one dampened with water would not be the safest thing to use on the inside of some cameras. Only investigation will convince one of the enormous amount of dust they are carrying around in the interior of their camera, ready to be set in motion at the slightest provocation.

WORKING ARISTO-PLATINO

A correspondent has been having trouble with his aristo-platino paper. The small sizes seem to work all right, but the eight or ten seems to turn yellow around the edges in the toning bath. This fault often makes its appearance when the paper has been kept in stock too long. It is easily remedied by adding a little ammonia to the fixing bath—just enough to make the bath smell faintly of the ammonia. This will cure quite obstinate cases of discoloration of this kind.

PHOTOGRAPHING INTERIORS

One of my correspondents finds that he can only secure small portions of the interior

of his rooms while he would like to obtain more complete views. He will have to secure a wide-angle lens. Before doing so, however, I would advise him to try a little more seriously for characteristic bits of the rooms he wishes to photograph. I think he will find such pictures more satisfying than views made with a wide-angle lens that have more the character of dealers' catalogues in their exactness in portraying everything within sight. The favorite window seat, the easy chair and the table beside it, the sunny side of the dining-room, the playhouse corner of the nursery, in fact, the little bits, are more amenable to pictorial treatment than the more comprehensive possibilities of the wide-angle lens. Try the class of work I have suggested, and, where possible, introduce some element of human interest. Let the window seat contain an open book or other hint of recent occupancy; let the table show a few flowers carelessly thrown down, an open letter or other evidence of slight disorder. Allow the children's toys to lie about as they so habitually do; permit the parasol and roll of music to remain in the tall chair in the hall. Do these things, and employ your knowledge of composition on these simpler subjects, and you will secure more creditable results than if you attempt to emulate the professional who makes a specialty of store interiors.

SOFTENING DEFINITION IN PRINTING

Almost every amateur has a few landscape negatives in which the masses of light and shade are large and well defined, and in which the different parts of the picture are clearly outlined. Such negatives as these produce prints that must be looked at from a distance to secure their most effective impression. The wealth of detail that such negatives sometimes possess is inclined to be a fault rather than a virtue. Even the use of a rough-surfaced paper does not always mend matters. A better plan is to interpose between the negative and the paper, while printing, a thin sheet of celluloid. Such sheets can be purchased at the art stores with either a mat surface or smooth. The former softens the resultant print to a much greater extent than does the latter, but one will be

surprised at the number of cases in which even the extreme softness caused by the use of the mat-surfaced variety is an improvement. A little experimenting along this line will repay any worker desiring to improve his pictures.

THE DISTORTION CAUSED BY WIDE-ANGLE LENSES

That the wide-angle lens distorts the perspective is another fallacy that should be corrected. That the argument put forward by those responsible for the impression is not good, there is no doubt, but the manner in which the facts are marshaled has led to a mistaken idea in the minds of the users of lenses. A picture taken with a wide-angle lens is objectionable exactly in proportion to the amount of increase in the visible area of the print over that easily and clearly seen by the eye when directed at the center of the view. If you set up a camera at a certain spot and make two negatives, one with a narrow and one with a wide-angle lens, the perspective or angle at which any particular vanishing line reaches the point of sight will be the same in both pictures. The angle formed by the roofs of houses on the side of a street, for instance, will be exactly the same in both views. The center of the picture made with the wide-angle lens will contain the same material with the same perspective as that made with the longer focus. They will simply be on a smaller scale. If we paste the picture made with the narrow-angle lens in the center of a large sheet of paper, and continue the lines formed by the roofs, sidewalks, and the like, in our street scenes, for instance, in straight lines in pencil until they include as much as does the wide-angle view, we will find the same so-called violent perspective to result. This is the whole story.

CLOUD NEGATIVES

One of my most valued correspondents, and one that has given me many goods hints for this department, Mr. J. Clair Hegarty of Utahville, Pa., says in a recent letter concerning his summer's work: "Every amateur should have a good collection of cloud negatives. He should not content himself with half a dozen showing masses of the ordinary white cumulous variety in a blue sky, but should endeavor to secure a number of negatives showing a variety of cloud forms in order that all classes of landscapes can be provided with harmonious skies. One should protect all cloud negatives by enclosing them

in negative preservers, making notes on the outside of the envelopes as to the lighting and exposure. There is no print equal to the common blue print for showing the good or bad quality of a cloud negative as well as for giving a correct interpretation of its capabilities as to line and texture. For this reason one should prepare a blue print from each cloud negative, and paste it on the envelope containing the negative from which it was made. Thus equipped, it is a much easier matter than usual to select a cloud negative that will harmonize with the landscape negative from which it is desired to print.

MODEL FOR PORTRAIT STUDY

A fair correspondent complains that she would like to experiment with different lightings and varied poses of the head in portraiture, but lacks a model with the required patience and interest in the work. All her friends seem to think that each exposure should be a success, failing to realize that anything in the nature of a failure is other than a woeful lack of knowledge on her part. For this reason she is deterred from experimenting as she desires. The trouble is easily overcome. For about one dollar she can obtain almost a life-size plaster-cast bust, of the dealers in any large town. This may be hardened and made washable by dipping in a solution of boric acid in hot water, to which a little ammonia has been added. This will permit of giving it either a florid or sallow complexion. In order to study the effect of different lighting on these colors as one finds them in the human subjects, one has simply to place the bust on a small stand, and all fear of tiring the model will disappear. Portraiture, under the disadvantages imposed by the wearing of a large hat by the sitter, can be studied out by placing one of these abominations of the photographer on the head of the cast and studying the effect of different arrangements of the screens and curtains. Even the disadvantages of successfully portraying sunset tresses may be experimented with by draping the brow of the plaster-cast with a piece of soft cloth stained the right shade of yellow or red. The use of a blue crayon, or circular pieces of light blue paper, will allow one to discover that not all lightings are suitable to eyes of this color. In fact, I think such a model as I have recommended would be much more advisable than even the most patient and enthusiastic friend whose services one could hope to secure,

at least during the early stages of the work. One would be relieved of all necessity of haste as well as from a great deal of the embarrassment that is sure to be felt.

WHAT IS A PERFECT NEGATIVE?

A Washington correspondent sends in the above question. With some of the foremost lights in Photography taking sides on the question, I feel that my correspondent has given me a rather large order to fill. We can take two negatives, entirely different in quality, and yet both may be as near perfect as possible. The technically perfect one is as nearly sharp all over as a conveniently small stop will make it—one in which the scale of gradation is as long and the range of tone is as full as is possible from clear glass to absolute printing opacity. The other one may

be devoid of all of these good qualities, yet yield the desired effect in the finished print without the least attempt at dodging, and for this reason is a perfect negative. It is evident that a perfect negative for the reproduction of a certain scene under one particular condition of the light and atmosphere would be much like an imperfect one intended for the same scene under different conditions. I think we can safely ignore the demands of the extremist who worships at the shrine of gradation, correct exposure, and good definition, and console ourselves with the more practical precept that the perfect negative is the one that the most nearly gives us, in the finished print, that interpretation of the scene that it is our desire to convey, regardless of the degree of definition, scale of gradation, or other qualities.

NOTES AND COMMENT

The California Wood Working Company recently turned out a number of remarkably fine pieces of studio furniture in smoked oak that would astonish some of the old timers. The furniture was made after designs submitted by the photographer and improved upon by the designer of the company.

While this class of furniture costs a little more than the ordinary, it has the merit of being original and artistic, two very important features to be considered in fitting up a studio.

A letter addressed to the California Wood Working Company, 409-411 Jackson Street, San Francisco, will bring an immediate reply to all questions as to cost and style.

KODAK PRIZE

Howland & Co., No. 213 South Broadway, Los Angeles, dealers in photographers' supplies, are the winners of the first prize offered by the Eastman Kodak Company for the best eight-foot window display, the premium being seventy-five dollars. The arrangement of the window attracted much local attention, the title of the picture worked out with cameras and other kodak effects being "The Road to Pleasure." It repre-

sented a party of Brownies setting forth with their kodaks, and is a very ingenious adaptation.

OREGON CAMERA CLUB

The members of the Oregon Camera Club are beginning to prepare for the eighth annual print exhibit to be held November 24th to 29th inclusive. Having increased the membership during the year to about two hundred, it is hoped that a larger and more successful exhibit will be held than in any year past.

JUDGES APPOINTED

Mr. Rudolph Eickemeyer, New York, Mr. C. Yarnall Abbott, Philadelphia, and Mr. William B. Dyer, of Chicago, have been appointed judges in the Quarter Century Photographic Competition of the Bausch & Lomb Optical Company. The high standing of these gentlemen as photographers, and the fact that they have devoted so much time to the critical study of photographs will make it especially desirable to have photographs passed upon by them, as well as insuring absolute impartiality in judging. We congratulate the Bausch & Lomb Company upon the happy selection.

INDEX TO "CAMERA CRAFT"

VOL. V.

DEPARTMENTS		PAGE			PAGE
Notes		98, 171, 254	Lenses for Stereoscopic Cameras		11
The Amateur and His Troubles			Los Angeles Exhibition—Its History and Success		43
	<i>Fayette J. Clute</i>	32, 89, 126, 164, 205, 252		<i>Helen L. Davie</i>	191
A Photographic Digest			Notable Pictures at the Buffalo Convention		121
	<i>H. D'Arcy Power</i>	36, 93, 127, 160, 208, 248	Outing of the California Camera Club to the Yosemite		176
Editorial		30, 82, 125, 158, 199, 246		<i>Dr. G. G. Burnett</i>	84
GENERAL ARTICLES			Papa Cramer and His Family		174
An International Signboard		80	Photography at the St. Louis Exposition		231
Awards at the Los Angeles Exhibition		78	Photographing a Humming Bird		9
A Few Words of Criticism Upon the Work of Each Exhibitor at the Los Angeles Exhibition		45		<i>Maurice D. Brown, M. D.</i>	101
A Home-made Telephoto Lens		227	Photographing Statuary		216
Business Conditions in the Photographic World—An Interview with Mr. George Eastman			Plates and Light Filters for Orthochromatic and Tri-Color Photography		149
	<i>Carl E. Ackerman</i>	173	Portrait Photographer for More Than Half a Century in San Francisco, A		178
California Girl, A		120	Pros and Cons of Rapid-fire work		241
Celebrities Before the Camera		108		<i>Edward W. Newcomb</i>	213
Colorado Desert and the Colorado River Delta, The		1	Series of Eight Prints by Women Photographers		148
	<i>Frederick I. Monsen</i>	1	Some Gems of Thought from Master Minds at the National Convention of 1902		241
Combination Developer, A		146	Some Modifications of the Normal Photograph		213
Comments on the London Salon		243		<i>George M. Hopkins</i>	197
Convention of Progress		175	Some Points in Pinhole Photography—A series of three papers—first paper		242
Eclipse of May 18, 1901		12	Spider Webs		144
Edinol for Bromides		239	The Agfa Reducer		19
Element of Time as a Part of the Photographic Process		139	Third Chicago Photographic Salon		27
Exhibitors at the National Convention		200	To Determine Focal Length		113
Experience or Superstition		22	Totem Poles of Alaska, The		130
Few of the Most Interesting Pictures at the Los Angeles Exhibition, A (eight pages in color)		57	Two Pictures From New Zealand		238
Good Business Methods for Photographers				<i>A. E. Winzenberg</i>	148
	<i>C. M. Hayes</i>	184	What a Camera Can Be Made to Do		118
Hints for Platinotype Workers			What Becomes of the Amateur Photographers?		
	<i>Alvin Langdon Coburn</i>	235		<i>W. I. Scandlin</i>	
Idiosyncrasies of the Customer		188	Where Industrial Photography Will Find a Home at the World's Fair in St. Louis		
Late Work of Some of the San Francisco Photographers		219	Women in Photography		
	<i>Burk Parkinson</i>		Work of the Tacoma Convention		

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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All photo supply dealers and news dealers are authorized to receipt for subscriptions in our name. Price per year \$1.50; Foreign \$2.00. Back numbers can be obtained direct from the publishers at 15 cents each.

* Advertising rates are low and to be had on application. MSS. solicited upon photographic subjects.

WANTS

Free to those seeking employment.
Three lines, one insertion, 50c. Three insertions \$1.00.

I will pay cash or give liberal exchange for interesting unmounted photographs, any size, either amateur or professional. Wilfred C. Tilton, Prairie Depot, Ohio. May, '03.

Two hundred and fifty-six unmounted views; size 5x7; no two alike; packed in case ready to mail; \$3. J. D. Givins, photographer, 1776 Union St., San Francisco, Cal.

For Sale—One of the best studios in the Northwest. For particulars address L. B., care CAMERA CRAFT.

Wanted—A position as retoucher or general workman, by a married man. 42 years old; samples sent; (West preferred), or would run a gallery on shares. Address, W. H. Shaffer, 2207 Berryhill St., Harrisburg, Pa.

For Sale—6½x8½ Plastignat lens, B. & L. diaphragm shutter and extra barrel; brand new and guaranteed; \$70; need smaller shorter focus lens. H. H. Derr, 401 I St., Sacramento.

For Sale—Splendid paying gallery; San Francisco. T. P. Andrews, 109 Montgomery St., S. F. Cal.

For Sale—No. 4 D. Dallmeyer lens; cheap. T. P. Andrews, 109 Montgomery St.

Position wanted by a man of experience in the photo supply business, wholesale and retail; will furnish best of references. Address A. B. C., care of publishers.

The address of T. E. P. is wanted at this office.

Eastman Kodak Company

ROCHESTER, N. Y.

SKEPTICAL?

At the convention of the Photographic Association of America held in Buffalo during August, one hundred and twenty-five rolls of film were developed in the Kodak Developing Machine without the loss of a negative.

The profession marveled. We have even heard of one skeptic whose unbelief in his eyes was so great that he declares to a conviction that the film was developed and fixed before the cartridges were placed in the machine. We do not blame him much—we have heard too many expressions of astonishment from the leaders of the craft. "More than human" said Editor Newcomb. "More traditions shattered" said Miss Ben Yusuf. "I should never have believed that little metal box could do the business" said Caspar Whitney.

But it does "do the business" and in the words of Alfred Stieglitz the "dark room is doomed for the average photographer."

We do not ask you, skeptical reader, to believe without seeing, but we hope that you will take the trouble to see at the first opportunity. Unqualified endorsements are not to be overlooked when they come from such people as Messrs. Marceau, Stieglitz, Eickemeyer, Berg, Newcomb and Miss Ben Yusuf—all of them recognized leaders in photography. And to these names are to be added those of Ernest Thompson-Seton, Alexander Graham Bell, Frederic Remington, Richard Watson Gilder, George Kennan, Caspar Whitney and G. O. Shields.

No photographic apparatus, no photographic process has ever been introduced to the public with such strong endorsements as these people have given the Kodak Developing Machine. And these testimonials are from those who know. Each of them is either a leader in photography or in

some form of work to which photography is an important ally.

As witnesses to the value of the Kodak Developing Machine their testimony is unimpeachable. What they endorse no photographer, amateur or professional, can afford to pass by as unworthy of his attention.

THE 4 x 5 KODAK DEVELOPING MACHINE

The Style E Kodak Developing Machine for Kodak Cartridges of all styles and sizes smaller than 5x7 is now ready.

The smaller machines, which were placed upon the market about August 15th, created a greater furore than has any photographic product or process since the introduction of the Kodak. Of course there will be a storm of criticism from some sources; we expect it. The same old story will be repeated. It was the same way when dry plates were introduced. The false prophets could see none of their good points and missed none of their drawbacks. Yet the dry plate has entirely displaced the wet plate in the photographic field. And the Aristo papers—there were many who could see no merit in them. Neither collodion nor gelatine appealed to them. "Good old albumen," was their cry. This was less than a dozen years ago, yet albumen has been almost forgotten. And the Kodak and Kodak film!! How the "old timers" cried out against them—but kodakery grew until to-day there are more Kodaks than plate cameras in use. And Dekko and Velox—do you remember how a daylight development paper was laughed at? And to step for a moment outside of photography—have you forgotten the dire disaster that was predicted for the pneumatic tire? Have you forgotten how gleefully the

Index to Volume VI

November, 1902, to April, 1903

GENERAL ARTICLES

	PAGE		PAGE
America to Be the World's Art Center.....	81	New Hunting and the Old, The—Views of the Gun Hunter on the Camera Hunter.. <i>Jesse Lynch Williams</i>	76
An Elaborate Catalog.....	244	New Portrait Lens.....	257
An Out-Door Portrait..... <i>Otto Kuster</i>	77	New Way, The—Illustrated.....	235
An International Photographic Exhibition..	11	Not for Today..... <i>E. I. H.</i>	185
Art in Schools..... <i>Katherine Louise Smith</i>	115	Notes in Focal Plane Shutter Work..... <i>Walter Kilbey</i>	106
Be Loyal to Your Profession.....	183	Opacity in Negatives..... <i>Chapman Jones</i>	153
Big Industrial Number, The.....	205	Page of Kittens, A..... <i>J. V. Toland</i>	107
Boston Background Painters, The.....	230	Photographic Possibilities in Mexico—Illus- trated..... <i>Arnold Genthe</i>	31
Bromide Printing.. <i>C. Winthrop Somerville</i>	36	Photographing Indian Babies—Illustrated.. <i>George Wharton James</i>	58
California's Summer Days..... <i>Charles Sedgwick Aiken</i>	261	Second Paper.....	145
Camera Obscura.....	81	Photographing Accidents—Some Remarkable Pictures With a Few Words of Advice— Illustrated. <i>By a Newspaper Photographer</i>	137
Carbon Printing..... <i>W. J. Brooke</i>	63	Picture Stories With a Camera.. <i>O. V. Lange</i>	47
Cascades of the Sky—Illustrated..... <i>Alexander McAdie</i>	181	Pinhole Photographs and Exposure—Sec- ond Paper..... <i>Dr. H. D'Arcy Power</i>	14
Color Photography—A Brief Resume..... <i>H. D'Arcy Power, M. D.</i>	240	Pinhole Photography—Different Sized Pin- holes—Their Properties—Angle View— Third Paper..... <i>Dr. H. D'Arcy Power</i>	68
Combination of Conveniences, A—Illustrated	270	Pinhole Photography—Portraiture, Copy- ing and Enlarging Instantaneous Expo- sures—Fourth Paper.. <i>Dr. H. D'Arcy Power</i>	103
Copying..... <i>R. T. Pretzl</i>	121	Picture From the Land of Dickens, A—Ill- ustrated.. <i>Dr. Fred B. Jefferies, M.R.C.S.</i>	17
Death of Two Prominent Men.....	154	Plate Developing Box, A.....	230
"Digger" Indians and the Camera—Illus- trated..... <i>Horatio F. Stoll</i>	155	Platinum Toning of Bromides.....	102
First Minneapolis Salon, The.....	125	Playmates, The—A Simple Story in Six Pictures..... <i>George Hansen</i>	49
Fishermen's Wharf, San Francisco..... <i>E. C. Peirotto</i>	260	Polychromatic Plate, The... <i>John Carbutt</i>	269
Folding Pocket Kodak de Luxe (Frontis- piece).....	218	Portrait..... <i>Dudley Hoyt</i>	19
Glycin With Hydroquinone.....	11	Portrait..... <i>Oscar Maurer</i>	57
Gold Medal Winner at Kansas Photographic Association.....	66	Powder Fire at Mare Island (Frontispiece) <i>W. F. Henry</i>	136
Good Green Tones on Bromide Paper..... <i>R. Namias</i>	205	Practical Color Photography..... <i>Arthur E. Talboys</i>	109
Hot-Bath Method of Toning Bromides.....	75	Second Paper.....	141
Hurdles the Amateur Must Jump Before He Can Become Great.. <i>H. Florence Oliver</i>	184	Third Paper.....	192
Hypo—An Experiment and a Moral.. <i>F. C. L.</i>	54	Preliminary Salon Announcement.....	257
Important Announcement.....	154	"Proschlite" Storage Lamp and the "Dia- plane"—Illustrated.....	250
Impressions of the Orient—Japan—Illus- trated..... <i>Herbert G. Ponting</i>	91	Report of the Executive Committee of the Photographers' Association of America.. <i>George G. Holloway</i>	164
In a Moki Window (Frontispiece)..... <i>George Wharton James</i>	46	Silhouette..... <i>Adelaide Hanscom</i>	56
Intention in Photography.....	62	Some Novel Designs in Albums—Illus- trated.....	267
Interesting Side of Football Photography, The—Illustrated..... <i>Archie Rice</i>	26	Stains..... <i>F. G.</i>	124
Irritant Chemicals..... <i>Frederick Graves</i>	18	Stereoscopic Photography as Applied to Dis- tant Views—Illustrated..... <i>Sanford Robinson, Ph. B.</i>	20
Joys and Rewards of Cloud Photography, The—Illustrated... <i>James H. McCorkle</i>	186	Studyin' (Frontispiece).. <i>Elizabeth W. Nott</i>	90
Knowledge Is Economy.. <i>H. Florence Oliver</i>	53	Snake Dance of the Hopis, The—Illustrated <i>George Wharton James</i>	3
Kodak Peltoid Plates.....	125	Third San Francisco Photographic Salon Will Be Held in November.....	161
Landscape..... <i>Alvin Langdon Coburn</i>	120	Three Notable Portraits of Distinguished Visitors by California Photographers— Pietro Mascagni by George Wilcox, Ed- ward MacDowell by Oscar Maurer, Pro- fessor Lorenz by Arnold Genthe.....	201
Landscape..... <i>Alvin Langdon Coburn</i>	152		
Making of High-Grade Lenses.. <i>L. B. Elliott</i>	264		
Manufacture and Use of Orthochromatic Plates..... <i>J. E. Huiskamp</i>	252		
Measuring the Light in Studios.....	234		
Melba (Frontispiece)..... <i>Arnold Genthe</i>	180		
Modern "Master Craftsman"—Illustrated.. <i>Le Roy Hartley</i>	231		
My Idea of What an Amateur Photographer Should Be..... <i>Dale J. Noland</i>	162		
New Defender Agency.....	124		
New Formulae Recommended by the Makers of Edinol.....	197		

	PAGE
Trees and Sunshine (Frontispiece).....	
<i>Dr. H. D'Arcy Power</i>	1
Trichromatic Photography.....	208
<i>E. J. Wall</i>	
Troubles of the Dry-Plate Maker.....	
<i>Robert Benecke, Superintendent G. Cramer</i>	
<i>Dry Plate Company</i>	74
Two Gum-Bichromate Prints.....	
<i>Alvin Langdon Coburn</i>	12
Use of the Wynne Meter, The.....	
<i>Henry Wenzel, Jr.</i>	80
What the New Cameras Look Like—Illustrated	219
Why the Next Convention Should Come to California	258
<i>Hiram G. Vaughan</i>	
Wrinkle in Making Sunsets, A.....	
<i>Fayette J. Clute</i>	108

DEPARTMENTS

EDITORIAL

A New Dress	34
American Photographers Abroad.....	79
Camera Tax, The	78
California Again Ahead	166
Camera Work	166
Camera in Court	79
Growth of Illustration, The	207
Is Photography a Fad?.....	35
In the Art Building	78
Minneapolis in Line	118
More Funds for the University.....	118
Next Convention, The	206
Resting on the Oars	35
Right of Privacy, The	119
Save Time	207
Sportsman vs. Naturalist	79
St. Petersburg Exhibition	35
Suggestion in Advertising	118

THE AMATEUR AND HIS TROUBLES

Conducted by FAYETTE J. CLUTE

A Vacation Experience	41
About Asking Questions	42
About Backgrounds	280
Advice for the Dealer	126
Another Hint for the Dealer.....	126
An Amateur With a Specialty.....	85
Another Way of Turning a Dollar.....	85
As to Competitions	87
An Unnoticed Departure in Journalism...	127
Bath Tub Enamel	280
Bartolozzi Reds on Bromide Prints.....	217
Blue Print Cloth	280
Blackening the Image in Mercuric Intensification	280
Chassagne Method	173
Cultivate the Artist	175
Cutting a Bevel Edge on Mounts.....	126
Dull-Looking Platinum Prints.....	280
Good Definition of Lenses	128
Good Reducer	86
Green Tones on Bromide.....	281
Handling Interiors	174
Hint on Home Portraiture	42
Hint to the Professional.....	174
In Making Portrait Negatives.....	216
Intensifying With Mercury.....	173
Kodak Developing Machine.....	43
Light for Portraits and Light for Landscapes'	173
Making Enlarged Negatives.....	87
Markings on Negatives.....	127
Marine Photography	43
Mr. B——'s Lament.....	87

	PAGE
One Way of Printing a Border.....	127
Photographing Live Things.....	86
Photographing Butter	128
Pipe-Stem Films	86
Proportionate Value of the Alkalis.....	128
Rest That Would Be Appreciated.....	217
Studying the Work of Artists.....	281
Sulphocyanide Bath, The.....	279
Those Negative Envelopes.....	215
Titles on Prints	41
Toning Albumen Prints	279
Turning an Honest Penny.....	279
Uranium Intensification	127
Using a Mirror in Focusing.....	215
Using Up Doubtful Plates.....	173
Using a Spectacle Lens.....	216
What Constitutes Beauty.....	42

A PHOTOGRAPHIC DIGEST

Conducted by H. D'ARCY POWER, M. D.

A B C of Photography	38
Acetonesulphite	211
American Photographers at the London Salon	39
Artificial Camphor	41
Brilliant Lantern Slides.....	170
Cinematograph Combined With the Phonograph	170
Correct Description of Dry Plates.....	82
Demachy on Gum Printing.....	278
Deficiencies of Plates.....	278
Development of Solio Paper.....	212
Development of Warm Tones of Velox Paper	214
Edinol	211
Enlarging Films	278
Fading of Prints, The.....	276
Focusing Enlargements	39
Gum Bichromate Receipts	39
Gum Prints in Polychrome.....	83
Hints on Using Rollable Film.....	83
How to Make Your Own Bromide Paper...	129
Mr. Ives' Parallax Stereogram.....	38
Kalatype, Printing Without Light.....	213
Lantern Slides in Color	129
Latest in Gum Printing.....	172
Lux	214
Misplaced View Finders.....	40
New Color Sensitizer.....	171
New Journal	212
New Modification of Bromide Prints.....	130
New Hardening Solution.....	40
New Substitute for the Alkalies in Development	277
Notes Upon Platinum Toning Baths.....	276
Paper Negatives	129
Pinhole Photography	276
Platinizing of Bromide Prints.....	212
Quick Drying of Carbon Tissue.....	211
Rapid Development With Two Developers..	212
Sanger-Shepherd Process of Making Color Photographs	169
Simultaneous Development and Fixation..	211
Stripping Ordinary Negatives on a Film of Bromide	130
Substitute for Celluloid	171
Substitute for Silver.....	82
Sunlight Effects	83
Tri-Color Lantern Slides.....	212
Unequal Illumination	169
Uranium Printing	172
Uranium Toning	172
Wanted: A Plate.....	82
Writing on Negatives.....	38

CAMERA CRAFT



NOVEMBER

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TREES AND SUNSHINE
PINHOLE PHOTOGRAPH
by DR. H. D'ARCY POWER

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. VI

SAN FRANCISCO, CALIFORNIA, NOVEMBER, 1902

No. 1



The Snake Dance of the Hopis

By GEORGE WHARTON JAMES

Illustrated by the writer, with copyrighted photographs

"Oh, pshaw! We've read so much about the Snake Dance that we're tired of the whole business. Give us something new, something fresh, something people know nothing about."

This was something like the greeting I received from the editor of CAMERA CRAFT when, in response to his request for an article, I suggested the Snake Dance.

This article is my answer. On the authority of Dr. Jesse Walter Fewkes, I venture to assert that with but two or three exceptions all the "popular" articles on the Snake Dance are not worth the paper they are written on, much less the paper they are printed on. They are full of the most glaring errors; errors even in matters of simplest observation, where no child need to have made the egregious blunders self-styled "experts" have complacently committed. Most people call it a wild, exciting, tumultuous, yelling, screaming, horrible carnival, when the fact is the whole ceremony is conducted with a dignity, a calmness, a solemnity that is not surpassed by any Christian observance, no matter how serious or solemn the occasion.

Then, too, it is not a dance in our sense of the word. It is a prayer for rain and of thanksgiving for the blessings of harvest. Neither is it an act of snake worship as so many state. The fact is that according to Hopi mythology the snake and antelope clans or families are descended from the union of Tiyo and his brother with two sisters, daughters of the snake mother, Tiyo being the paternal ancestor of the snake

clan and his brother that of the antelope clan. The story of Tiyo's visit, using a sealed-up hollow pinion log as a boat and sailing down the Colorado river through "shipapu" to the underworld is one of the most interesting pieces of aboriginal folklore. It forms the burden of the sixteen dramatic songs sung in the secrecy of the underground ceremonial kivas of the snake and antelope clans in the nine days of preliminary ceremonial which culminate in the open-air dance, all that whites and Hopis not of the participating clans are permitted to see.

This statement, however, is scarcely true. There are two other ceremonies connected with the Snake Dance that all who like may witness. These are the antelope race and the corn scramble or scuffle. The former of these takes place on the morning of the eighth day just before sunrise. Though apparently a mere test of athletic ability it is in reality a religious ceremonial. For centuries the Hopi lived surrounded by warlike and hostile people who preyed upon them, robbing and murdering them at all too frequent intervals. Being few in number, living in a desert land, beset by murderous marauders, fleetness of foot and great "staying" powers while running over the long trails of the sandy deserts became an essential condition of national preservation. Hence with the wisdom of statesmanship the priests made the cultivation of the powers of the body a matter of religion. Every youth was compelled, willy nilly, to exercise legs, arms, lung and heart powers to the utmost. The result is a fine athletic development unsurpassed in the world. Each year many great races are run and two of the chief of these are at the Snake Dance, there being a race on both the eighth and ninth mornings.

I think I see them now! I used to watch them from the mesa heights, but lately I have found a vantage point from which I could, at a distance, see the race in profile almost from start to finish. On the mesa top, near the head of the trail,



MARCH OF THE ANTELOPE PRIESTS



A LONE SPECTATOR OF THE RACE

there are large crowds of whites and Indians assembled. It is the dull gray of early morning, yet the brilliant colors of the Indians' costumes make a fine display. Here and there bands of naked Indians await the coming of the racers and here are young boys ceremonially decorated to greet them. At the immediate head of the trail the chief priests of the antelope clan stand with sacred meal and water ready to sprinkle the winners with these symbols of fertility and life.

See them as they run. Ten, fifteen, twenty of them; medium sized, stalwart youths from eighteen to twenty-five years of age; none of them more than five feet four to six or eight inches in height, but muscular and athletic to a degree. All are nude except for the breech clout, and perhaps a sunflower fastened over the forehead. The long, jet-black hair is loose and flows to the wind as the racers hurry along. With head thrown back, chests expanded and thrown out, arms and shoulders swinging to the movement, they follow each other on the narrow, sandy trail. Each man seems to be doing his best. For one to pass another seems an impossibility, and yet that is just what they are waiting to do. It means a desperate rush, for the sand outside the trail is more soft and yielding, and there are treacherous weeds and roots scattered along the track. Here is the chance, however, and the man who is fifth makes a sudden spring to the left, and as if stimulated by electricity, darts forward past the fourth, third and second men. For a time it seems as if he would pass the leader, but that runner has some power in reserve and he uses it to such good advantage that he succeeds for the present in keeping his place. But number five has become number two, and he is still evidently holding power in reserve, though keeping close to the leader and running at a pace absolutely killing on that fearful sand. Struggling and panting, on they go. The spectators above cheer them, and though our voices cannot possibly reach them, we are so excited at that last great spurt that we instinctively cheer the one who has gained second place. All at once he darts ahead again and before we can tell how it happened he is in the lead. What superb running it is.



WAITING TO SCATTER THE SACRED MEAL OVER THE RACERS

breathe heavily in anticipation, the new comer made an extra leap, darted into the lead, and before the two others could recover from their astonishment was literally his own height or more above them in the upward climb.

It was the finest exhibition of holding power in reserve until the last moment I ever saw in my life and it captured every one, whites and Indians alike, so that a perfect furore of applause greeted him when he stood, the winner, with bowed head, fiercely heaving chest, quivering limbs, body glistening with sweat, before the chief priests. The lightning bearer threw the zigzag symbols over him and rain clouds were pictured at his feet. Then he hurried on to the antelope kiva, where another priest gave to him the sacred gourd full of water and a sack full of sacred meal, with certain ceremonial prayer sticks, which, placed and used in his corn field, would assure to him an extra fine crop at the next harvest.

In the meantime a number of young men and boys had followed the rest of the racers, bearing in their hands cornstalks, melon vines and fruit. Immediately they reached the level mesa top the women and girls darted upon them and a most good-natured but exciting scuffle took place. It was not a mere rough and tumble, catch as catch can, anybody get anything scuffle, but on watching one could see fine plays going on. Here were three women all bent on catching one fellow and he equally determined to bestow his cornstalk upon a less demonstrative maiden who kept her eyes on

Ah! the defeated leader has made a jump forward and regained his place. But what is this? A runner who must have been far in the rear is outlined against the sky on the ridge there, bounding ahead as a "limited" train passes a slow freight. It is a marvel of athletic power. He bounds with the ease and speed of a pursued chamois. What a shout rends the air. Though we are over two miles away from the mesa top, it reaches us even here. The leaders struggle along desperately as they hear the panting breath of this new and formidable competitor, but their efforts are in vain, for, just as they reach the foot of the rocky part of the trail where white men generally stop and begin to



SNAKE DANCERS

him as he sought to escape the pursuit of the others and come to her. Success crowned his efforts at last, and amid much laughter, he gave his gifts to the maiden of his choice. For five to ten minutes this good-natured scuffling took place, and when every corn or vine carrier was rid of his gifts the play was at an end, and all retired to await the great event of the whole ceremony, the open-air dance, when the deadly reptiles would be carried in the mouths of the priest.

At noon, however, a secret ceremony took place in the dark recesses of the kiva, viz.: the washing of the elder brothers (as the snakes are called).

When the afternoon shadows began to lengthen every available place in the dance plaza was speedily occupied with as heterogeneous a crowd as ever assembled anywhere. It was a mixture in blood, color and clothing. Red, black, copper colored and white were all present, and caste was unknown. The Chinese jostled the African,



THE DANCE IN FULL SWING

the Indian and the white with equal serenity, and the white hobnobbed with red, black and copper colored. In clothes the contrasts were remarkable and striking; colors being used with an abandon and freedom that would have shamed a darky camp meeting or a Persian festival. For an hour or more we waited the march of the antelope priests. Then, suddenly, at the last moment, it was decided that the photographers present—and they were legion—must keep within a certain line, and that no one without a camera should be permitted in their preserves. This was an innovation. Hitherto every man had chosen his own field, and moved to and fro wherever he liked—in front of his neighbor or some one else; kicking down another fellow's tripod and sticking his elbow in the next fellow's lens. Half a dozen or more Indian policemen led by the acting agent kept us in line, so we had to go ahead and make the best of it.



TWO CHIEF ANTELOPE PRIESTS IN LINE, ONE WITH TIPONI, THE OTHER WITH THE SACRED WATER BOWL

In studying out the new situation we nearly lost the march of the antelope priests, for they came out before we were ready. We assumed position, however, and stayed there until the exciting part of the ceremony was over.

This placing of restrictions on photographers will undoubtedly continue as the dance becomes better known and attracts more people. Each year the number who flock there is greater, and it is imperative that some regulations be laid down or the poor Indians would be run over in the eager desire of the visitors to see them handle the deadly reptiles.

After circling in front of the kisi (a cottonwood bower in which the snakes are kept) the antelope priests lined up with their faces fronting from the kisi. Here they sang and danced a while, waiting for the snake priests. These came from their kiva to the south of the dance plaza, and as they arrived all sounds were hushed and all attention concentrated upon them. They circled before the kisi and then lined up facing the antelope priests.

Some people say they are hideous; others have said with me that the sight is sublime. If one looks merely at the half-nude bodies, made repulsive by a coating of reddish black paint, with dabs of whitewash in several places, their faces painted with the reddish black stuff, strings of white beads around their necks, and snake whips in their hands, then indeed it is easy to say that they are hideous. But if one looks at their faces with the determination to read there exactly what the soul behind shows,

he will see intense earnestness, deep solemnity, profound dignity and unflinching belief in the necessity for and power of the prayers about to be offered. And no one can see such evidences of inner belief and character without feeling the sublimity of the human soul when exercising its higher faculties.

Then, too, the simple, trustful bravery with which they handle the snakes when that part of the ceremony comes. They know the danger; no one more so. Indeed, if a priest is afraid he is not allowed to participate. Not only would his fear prevent his own proper worship, but it would interfere with that of his comrades.

There were few snakes at Oraibi this year, but those they had were active and vicious. There were several rattlers, some red racers and a few bull snakes. The light was good and several first-class photographs were made which actually show the snakes in the mouths of the priests. An interesting picture also is that where the priest holds the snake in his hand about to place it on the ground. At the Snake Dance in the other villages the priest swings the snake out of his mouth and allows it to fall. Here I noticed that every snake was gently placed upon the ground by the priest who had been carrying it in his mouth.

It should be noticed that the antelope men never leave their line during the handling of the snakes. They continue to sing during the whole performance. It has often been wrongfully stated that the antelope priests pair with the snake priests in the dance, but it is time intelligent observers and writers gave the error its quietus.

While waiting for the priests to return after taking the snakes into the valley, I learned of several slight changes owing to changed circumstances. The rain had made numerous small pools at the top of the mesa. The priests, in returning,



SNAKE PRIESTS DRINKING THE EMETIC

divested themselves of all their ceremonial paraphernalia and washed the paint from their bodies before returning to the kiva and drinking the emetic. Generally they have gone to their homes at Oraibi or at Walpi, have had the women bring water on the west side of the mesa and there washed them.

Another change the camera has produced. At Oraibi hitherto, after drinking the emetic, the priests would kneel on the edge of the wall just below the kiva and there vomit together, and in 1896 I made the accompanying photograph. The line of cameras this year frightened them away and the emetic was drunk as shown in the photograph, the priests all grouped around the bowls containing the mixture, and then each priest got as far away from the camera as he could and, in the words of one irreverent visitor, "went it alone."

It cannot be said that the changes are to the advantage of the photographer. They render his work less certain and effective, and it will not be long before one can write a learned and accurate paper from the standpoint of scientific ethnology on "the change in religious ceremonies owing to the camera."



THE RESULT OF THE EMETIC

An International Photographic Exhibition

The St. Petersburg Photographic Society, under the patronage of His Imperial Highness, the Grand Duke Michael, heir apparent, and by permission of the Imperial Ministry of Finance of Russia, proposes to hold an International Exhibition of Photography at St. Petersburg from April 14 to June 13, 1903.

From the programme just received by CAMERA CRAFT it is evident that the Exhibition will be conducted on a very large scale and will embrace every known branch of Photography. The exhibition has been divided into the following sections: Scientific Photography, Art Photography, Mechanical Photographic Printing Processes, Literature of Photography, Technical Application of Photography and Industry of Photography.

Prizes, including Honorary Diplomas, gold, silver and bronze medals and Honorary Mention Certificates, will be awarded by a commission of experts. Space will be charged for, but it is possible by a previous arrangement with the committee, to have space allotted free of charge. This will undoubtedly be done in case of American exhibitors under the heading of Art Photography.

Exhibits from abroad are exempted, by order of the Ministry of Finance, on importation within the limits of the Russian empire, from the payment of customs duty, upon condition of depositing a security, which will be returned upon the re-exportation of exhibits.

Copies of the programme and regulations with form of entry blank are on file at the CAMERA CRAFT office, 114 Geary street, where they can be inspected at any time. For further information address Mr. Boris Aglaimoff, general secretary, St. Petersburg Photographic Society, St. Petersburg, Fontanka 64.

Glycin with Hydroquinone

The following developer has recently been recommended as doing all that can be desired of a developer, being clean, free from fogging tendencies, and of good keeping qualities. Two solutions are prepared as follows:

No. 1—Glycin	180	grains
Hydroquinone	60	grains
Potassium carbonate	180	grains
Sodium sulphite (crystals)	690	grains
Water (hot or very warm)	10½	ounces
No. 2—Potassium carbonate	1	ounce
Water (cold)	10	ounces

For use, take one part of No. 1 and two parts of No. 2. Bromide is not necessary.

The following modification is recommended for plates which have been greatly over-exposed:

No. 3—Glycin	75	grains
Sodium sulphite (crystals)	450	grains
Potassium carbonate	390	grains
Potassium bromide	15	grains
Water (warm)	20	ounces

For ordinary exposures with the developer, showing a temperature of 70° F., the image usually appears in about twenty seconds after the plate is covered by the developer, and development is generally complete in about four or five minutes. But it does not fog a plate left in it for a longer time than this.—*Photography*.



TWO GUM-
BICHROMATE PRINTS



by ALVIN LANGDON COBURN
BOSTON, MASS.

Pinhole Photographs and Exposure

By DR. H. D'ARCY POWER

IN THREE PAPERS—SECOND PAPER

The more experience I have in pinhole work the more astonished I feel that it has received so little consideration from our serious amateurs, especially the pictorial section. And yet the reason is tolerably plain. First, there was the general impression that it was only adapted to small plate work—which is quite a mistake. My 11 x 14 negatives are finer than the 5 x 7 and will compare with the best product of the lens. Second, the inability to compose on the focusing screen—which I have shown (October CAMERA CRAFT) can be easily remedied by the use of a large pinhole (1-10 inch) for arranging only. Third, the utter uncertainty of the correct exposure time. These were difficulties too great for the average man to cope with. It is to the latter problem that I have been recently applying myself. I have attained a complete and practical solution of the difficulty and propose to give you in this paper the results of my work.

Let me first state that I use a battery of eight pinholes arranged on a revolving disc, which takes the place of the lens on any of my cameras, the largest of which is an 11 x 14 with a thirty-inch draw. The sizes of these pinholes run from 1-10 inch (the finder) to 1-120 inch, my smallest aperture. Now apart from variations in the actinic power of the light and the reflecting properties of the thing photographed, such a battery of lenses with the varying lengths of camera up to 24-inch require 150 different exposure times. No judgment can be gained from the ground glass, for the viewing pinhole is not the one used in taking the picture, 150 different exposure times, plus light and surface variation, is a thing no judgment can gauge.

I am aware that the very excellent little book on "Pinhole Photography" in the photo miniature series gives a set of tables whereby multiplying for one factor and dividing for a second and remultiplying for a third and exercising some judgment for the rest, an approximate exposure time may be attained. But life is too short for the process, and under the lighting conditions prevalent in California the results were unsatisfactory. On thinking the matter over it occurred to me that the principles underlying the Watkins and Wynne light meters were certainly applicable to pinhole work. The factors are the same, plate speed, subject value and in place of diaphragm aperture we have size of pinhole. The unrepresented factor was the varying bellows' length, and this I soon perceived could be tabulated and represented by a diaphragm number. With these theoretical considerations in mind it only remained to find the exact relation between pinhole and lens for a given subject under like conditions of magnification and illumination. This had to be ascertained experimentally.

I chose for comparison a 10½-inch Turner Reich Anastigmat and a No. 11 pinhole, the diameter of which micrometrically measured was 0.45 of a millimeter (1-55 inch). With this lens a landscape view requires a bellows extension of eleven inches and at the same extension the pinhole picture on the screen is identical with that of the lens and therefore comparable. After making many trials I finally obtained a pinhole and a lens exposure on the same subject and taken immediately following one another, that developed in the same bath yielded negatives identical in density and

in printing time. The plates used were Seed's 26x orthochromatic, reckoned at 120 Watkins' meter speed; the light was 15 seconds Watkins' meter; the diaphragm $f/32$. The exposure time as shown by the meter was one second, and this proved to be correct. The exposure given to the pinhole plate was 60 seconds. From this experiment I deduced the rule that whatever might be the variation in light or plate speed, if the diaphragm be placed at 32, and the exposure time, as indicated on the meter, be read as minutes in lieu of seconds or hours in place of minutes, will always be correct for a No. 11 pinhole at eleven inches from the plate. As light diminishes and exposure time increases proportionately to the square of the distance it was quite a simple matter to calculate the diaphragm numbers that correspond to other distances of plate from pinhole.

The results are given in the appended tables. Furthermore, as the exposure time is also proportionate to the area of the pinhole and the area of all my pinholes being known, it was easy to calculate the diaphragm stop corresponding to each. Thus: No. 11 (1-55 of an inch) required (as experimentally ascertained) stop $f/32$ for 11-inch draw; No. 8 for the same length was represented by stop $f/22$, and No. 12 by stop $f/42$. Knowing in this way the diaphragm value of each pinhole at 11 inches, the diaphragm values for all other distances were calculated as in the first case. The result is a small table by the use of which in conjunction with a Watkins or Wynne meter the correct exposure can be obtained for any sized pinhole at any extension from 3 to 24 inches and under any condition of lighting.

The *modus operandi* is as follows: Take the intensity of the light and set the plate speed as for a lens exposure. Note the extension of the bellows (I have my base board marked in inches) and look in your table for the diaphragm number that corresponds to this extension with the pinhole used; set the diaphragm ring of the meter to this and read off the exposure time. These will be given in seconds or minutes, consider them minutes or hours as the case may be, and you have the pinhole exposure time as certainly as in the case of a lens reading.

An example will illustrate:

Landscape with foreground.

Factors:

1. Seeds plate 26x, speed 120 (Watkins' meter).
2. Pinhole No. 10, bellows extension 8 inches, by table equals diaphragm 20.
3. Light by meter 15 seconds.

Arrange these factors on the meter in the usual way and the answer given is three-quarters of a second. Call this three-quarters of a minute or 45 seconds, and we have the correct exposure.

It is, therefore, to be understood that the table of constants here given is based on the carefully tested observation that a 10½-inch lens stopped to $f/32$, and a pinhole of 1-55 inch, eleven inches from the dry plate, give negatives of equal density, provided the pinhole exposure is sixty times that of the plate—a minute for a second. While the rest of the table is calculated, the figures given are not fractionally correct, but are near enough for practical purposes. That they are reliable has been carefully demonstrated; for example, the accuracy of the diaphragm figures for the various pinholes was tested as follows: A test subject, to wit, the Art Museum, Golden Gate Park, San Francisco, was arranged on the ground glass at a distance of five inches and was successively taken by four different pinholes with diameters of 1-10, 1-19, 1-38 and 1-71 of an inch, and the exposure times calculated on the table figures were

respectively, 1 second, 3 seconds, 12 seconds and 45 seconds. The resulting negatives were developed in the same bath for the same time. They were of equal density and correctly exposed. Prints from these negatives will be produced in the next number of CAMERA CRAFT, when I propose to deal with the merits of different sized pinholes. In the same manner the diaphragm figures for different camera lengths have been practically tested. Thus, the picture illustrating this article was taken on a 5 x 7 plate, 12 inches draw, with a five-minute exposure, and then again taken on a 11 x 14 plate, 24 inches draw, 20 minutes exposure. The two negatives proved of equal density. The one here reproduced is from the 11 x 14 negative and affords proof of the fact that pinhole work is not confined to small negatives.

Finally, I am of opinion that the size of the various pinholes as found by micro-metric observation are not related in an ideal manner. I am in communication with a well-known mechanic and hope that he will find it possible to turn out a wheel of eight pinholes of invariable size, viz.: 1-10, 1-30, 1-40, 1-50, 1-60, 1-70, 1-90 and 1-120 of an inch, or similar relations in the metric scale. Also it is to be hoped that the makers of light meters will add an extra ring to their instruments which would relieve workers of the necessity of carrying about the subjoined table:

TABLE OF DIAPHRAGM NUMBERS AND SIZES OF PINHOLES CORRESPONDING
TO THE DISTANCES OF PINHOLE FROM PLATE
OR BELLOWS LENGTH

Size of Pinhole	Distance of Pinhole from Plate or Bellows Length										
	3-in.	4-in.	5-in.	6-in.	7-in.	8-in.	9-in.	10-in.	11-in.	12-in	
No. 1—1.3 in. m., or 1-19 in.	3	4	5	6	7	8	9	10	11	12	
No. 8—0.65 m. m., 1-38 in..	6	8	10	12	14	16	18	20	22	24	
No. 10—0.52 m. m., 1-47 in..	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30	
No. 11—0.45 m. m., 1-55 in..	9	12	15	18	21	24	27	30	33	36	
No. 12—0.35 m. m., 1-71 in..	11.5	15	18½	22	25½	29	32½	36	39½	43	
No. 18—0.3 m. m., 1-88 in..	13	17½	22	26½	31	35½	39	43½	48	52½	
No. 24—0.2 m. m., 1-120 in..	19	25	31	37	43	49	55	61	67	73	

For bellows lengths greater than 12 inches and less than 24 inches, find the exposure time for half the length of bellows used and multiply by four.

It is to be noted that certain simple relations exist between these diaphragm numbers. They progress by 1, 2, 2½, 3, 3½, 4½ and 6 respectively. Thus with a No. 11 pinhole the length in inches of the camera extension multiplied by three equals the required diaphragm number. When this is remembered the table can be dispensed with.

Since writing the above my attention has been drawn to a paper by Mr. Osborne S. Yellott, published in the early part of 1900 in the *Photographic Times*, in which the same problem is attacked from the same theoretical basis, but along a different line, and with a different practical result. The difference that I perceive between Mr. Yellott's method and the one given above is that the former involves a certain amount of calculation before each exposure which is not required by my method.

A Picture From the Land of Dickens

By DR. FRED B. JEFFERIES, M. R. C. S., L. R. C. P.

Honorable Secretary Rochester Photo Club, England



In the out-of-the-way little village of Cooling, between the Thames and Medway, near Rochester in Kent, and there in the church yard we find the subject of the accompanying photograph. Thirteen lichen-covered tombstones, ten small ones all of one size, and three large ones, weather-beaten and chipped, the inscriptions only partly decipherable and then with difficulty.

What are they?

The headstone set up in the middle does not help much. I dare say it would if readable, but all that can be made out is the name Comport, and that all the stones belong to one family of that name.

But what has this to do with Dickens?

Turn to page one of "Great Expectations;" you will read in Pip's words:

"As I never saw my father nor my mother, and never saw any likeness of either of them (for the days were long before the days of photographs), my first fancies regarding what they were like were unreasonably derived from their tombstones. The shape of the letters on my father's gave me an odd idea that he was a square, stout, dark man with curly black hair. From the character and turn of the inscription, '*also Georgiana, wife of the above,*' I drew a childish conclusion that my mother was freckled and sickly.

"To five little stone lozenges, each about a foot and a half long, which were

arranged in a neat row beside their grave, and were sacred to the memory of five little brothers of mine—who gave up trying to get a living exceedingly early in that universal struggle—I am indebted for a belief I religiously entertained that they had all been born on their backs with their hands in their trousers' pockets, and had never taken them out in this state of existence."

Our photo is one of these tombstones sacred to the memory of Pip's relatives. Dickens only mentions five small tombstones, either that he feared to offend surviving relatives by giving a too exact description, or else that he thought the credulity of his readers would not be strong enough to believe the existence of ten small stones identical in shape and size. These historical stones are not known to many, being far from the beaten track of the tourist lover of Dickens.

Irritant Chemicals

By FREDERICK GRAVES, *in the Amateur Photographer*

Some little time ago I referred to the irritating properties of bichromate salts and metol. My attention is at present directed to some more cases of metol inflammation.

Dr. Leopold Freund, *Münich Medical Woch.*, has well described one common form of extensive inflammation, where the flexor surface of all the fingers of both hands was the seat of a diffuse dark blue-redness, which disappeared under the pressure of the fingers; the skin felt hard and thickened, and the fingers looked larger than normal. The appearance of the skin was as though the hands were lacquered, and both hands felt cold and dry to the touch. This change extended as far as the wrists, and the backs of the hands were slightly affected. This class of case is not of very frequent occurrence, I believe, though I have seen a somewhat similar condition, and where, undoubtedly, the state in question was directly and only attributable to excessive dabbling in metol solutions. The nails and the secretion of sweat were not affected.

In the early stage of this affection there is a feeling of numbness and anæsthesia; later the fingers become stiff, and are the seat of a disagreeable feeling of tension. However, there is no itching and no actual pain. It is what the pathologist would probably describe as a "local asphyxia of the skin." Recovery takes place spontaneously in two or three weeks if the worker abstains from touching metol.

As regards prophylactic measures, first of all, of course, those people whose skins are so sensitive that they cannot handle these chemicals without unpleasant results should employ rubber fingers or gloves. I have found good results from a preliminary wash of warm water containing a few drops of an ethereal solution of creosote or the inunction of a weak ointment of lanoline, creosote and sulphur, well rubbed in, the hands lightly dried on a towel before beginning development. When a condition of metol inflammation is established, the ordinary pine or lead and zinc ointments are probably as useful as any other remedy.

For the milder forms of metol inflammation an ointment of lanoline and vaseline, with creolin and salicylic acid, is one of the most efficacious remedies.



A PORTRAIT
by DUDLEY HOYT

Stereoscopic Photography as Applied to Distant Views

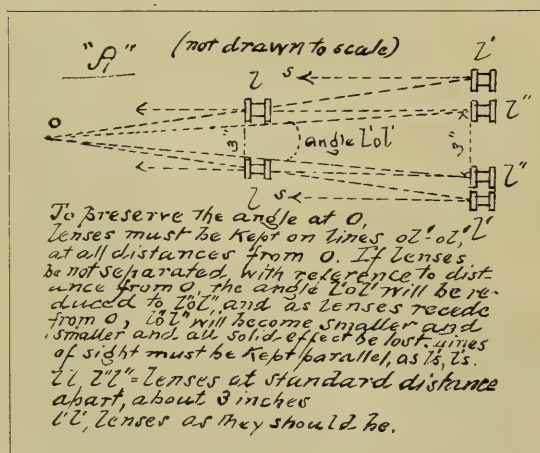
By SANFORD ROBINSON, PH. B.

Illustrated by the writer

The four reproductions illustrating Mr. Robinson's article may be removed for observation in the stereoscope, the relief being apparent to a remarkable degree when the loss in reproduction is considered. To those who do not wish to mutilate the magazine a press proof of the illustrations will be sent upon receipt of postage.—Editor.

A good many years ago, soon after the advent of the dry plate, I tried my hand at stereoscopy and became much interested in it. I had a pair of matched "Darlots" on a 5 x 8 camera, the lenses being placed at the invariable distance apart of some two and one-half to three inches. If I remember rightly we were very precise in those days and the distance between a pair of stereoscopic lenses had to be exactly two and five-eighths inches. This could not be varied by a hair's breadth. I did not do very much at stereoscopy, however, as shortly after I lost my camera and lenses in a fire. That ended my stereoscopic work until a very recent period. On looking back, I see that I had no idea of the theory and that I never made a stereogram except at close range, or at from a dozen to a score of feet between the lens and the subject.

Such a thing as a distant view was not thought of and in looking over stereograms of the present time I find no very distant views, or if there is distance in the picture there is no stereoscopic or solid effect in any part of it beyond the immediate foreground. The background is like that of the theater, a flat piece of canvas on which is painted a flat picture with no solidity whatever. This led me to thinking, and I came to the conclusion that the fixed lenses at three inches are not correctly placed except for objects close at hand,



say within twenty feet. A little thought will convince any one that as the solid effect is caused by the left eye seeing a little more around to the left of the object than does the right, and of the right seeing a little more to the right than is done by the left eye. It is a question of angle or one may say of the parallax of the object, or, to be more explicit, of the angle subtended by lines drawn from the object to each eye. In stereoscopy the lenses are supposed to stand in the place of the eyes and to be the same distance apart. As the lenses recede from the object I maintain that the

parallax should be preserved and the lenses continually separated in order to preserve that angle. This is shown graphically by diagram "A."

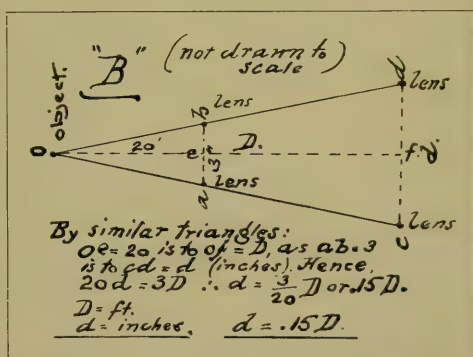
It will be at once said, of course, that the eyes do not recede from each other as they recede from an object, yet the solid effect is maintained. There we have the question opened at once. *Is the solid effect maintained?* Most decidedly it is *not*. Test it by looking off into the distance and see for yourself that only those objects near you, and very near you, are solid and that those at a distance are only solid *because you know them to be so* from experience. Take a tree on a distant hillside. It is as flat as though painted on a canvas. We are so used to the solidity of a tree seen in nature that we think it looks solid to us, but in reality it does not, and it is our imagination that gives us the solidity of *distant* objects. A picture must give us nature *as it looks to us*. If a horse trotting were painted with his legs drawn into the ungainly knots that the camera demonstrates to be the true positions taken by them in trotting the picture would be monstrous. The eye sees every object in nature with which it is familiar, as solid. Therefore, the stereogram should show them to be solid. To do this the lenses must be separated in accordance with some rule that will preserve the angle of parallax of the object or objects and keep it always the same. I set to work to find this angle. I found that at twenty feet lenses set at three inches apart gave a proper solid effect. A simple problem in proportion will give us a formula.

$$20:3::D:d.$$

"D" being the lens to the object ing the distance in inches. In car-proportion we al-factor, $3 \div 30$, which mula is resolved the distance from in feet multiplied by distance between

Objection to this raised, as it will be the two views at *different* times and on *different* plates. This is not an objection, but an advantage. There is no necessity for taking the two pictures on the same plate or of developing them alike, nor is it necessary even to have the two pictures or prints of the same tone, and I wish to lay particular stress on this, as it is contrary to the general opinion. One print may be dark and the other light. In the stereoscope they will take an intermediate tone and harmonize perfectly. The only kind of picture that cannot be taken in this way is, of course, the one requiring instantaneous exposure, where there may be moving objects. Even in such case, with two lenses of the same focus, it might be possible to take simultaneous pictures. But for the purpose of obtaining landscapes with a stereoscopic effect, one lens and camera is sufficient, and beautiful effects may be obtained of landscapes that are at any distance from the camera, if the rule for separating the lenses be observed.

There is but one limitation, and that is regarding the foreground. That must not be brought too close to the camera. If the picture can be taken from an elevation so that there is a low piece of ground between the camera and the view to be taken,



distance from the in feet, and "d" between the lenses rying out the above ways have as a is .15, and the for- into $.15D = d$, or the lens to the object .15 is equal to the the lenses in inches. will no doubt be necessary to take



No. 1—Formula: D =distance to main object (feet); d =separation of lenses (inches). $d=15D$
 No. 1— $D=40$ feet to plant. $d=.15 \times 40=6.00$ inches

the foreground can be cut off wherever desirable. I have found in practice, after assuming as my base the distance to some prominent object in the *middle ground* of the desired view, and from that calculating the distance that the lenses are to be separated, or the distance that a single lens is to be moved, and so arranging my foreground as to have it not nearer than say one-third of the distance from the camera to the principal object, that everything in the picture will be solid from the extreme foreground to the extreme background.

The views accompanying this article are not given as possessing any particular merit *as pictures*. They are only given to elucidate the subject and were taken only for that purpose. It was with much difficulty that I found suitable subjects up in these mountain summits where the elevation above tide is over a mile and the country much broken up. These given will, however, serve to show the effect obtainable by



No. 3—Distance, 950 feet. Separation of lenses, 12 feet



No. 2—Distance, 500 feet. Separation of lenses, 6 1-2 feet

the proper separation of the points of view. The stereogram marked No. 1 is taken at a distance from the aloe to the lens of 40 feet. Forty multiplied by .15 gives 6 (inches). No. 2 was taken at a distance from camera to the large house in the middle of 500 feet. Five hundred multiplied by .15 gives us 75 (inches), which is $6\frac{1}{4}$ feet. It will be observed that not only the main house in the middle, but that the house in the foreground and the building in the background are all stereoscopic and plainly show their relative distances. The hollow beyond the main house is plainly portrayed.

View No. 3 is taken at a distance of 950 feet. Nine hundred and fifty multiplied by .15 gives $142\frac{1}{2}$ inches, or very nearly 12 feet. Here again all the buildings in the foreground, the main building from which the calculation was made and the rocks beyond are all solid and show their positions with reference to each other.

Here I must call attention to the fact that the rule given is *not rigid*, but on the



No. 4—Distance: Foreground, 300 feet; hill, 600 feet; house, 1200 feet; mountains 1 1-2 miles.
Separation of lenses, 40 feet.

contrary allows great latitude. This latitude it is which brings so much of the picture into solid effect. This latitude also allows of some margin of error in estimating the distance to the main object selected as a base. The formula might no doubt be modified to some extent, with good results, but it has been found to give good effects, is easily remembered and will therefore prove useful. As a mere matter of curiosity I made a stereogram of view No. 2 with the lenses three inches apart. The result was a perfectly flat picture, with absolutely no stereoscopic effect whatever.

There is no difficulty in placing the camera. It should be at approximately the *same level* in both situations, but a few inches of difference are of no importance. At distances of 12 or 25 feet the eye should judge nearly enough as to the level. At greater distances, say such as would be necessary for a distance of a mile, which would be 66 feet, a pocket level or inclinometer could be used, or one could sight along the edge of an ordinary carpenter's level. Theoretically the camera must be the same distance from the object in each position, so as to get images of the same size on both plates, but even here a slight difference in distance would make on the plate so small a difference in the size of the images as to be imperceptible. The main point, and in those cases where there is a great distance between the two positions of the camera, the most difficult one in which to obtain accuracy is the *parallelism* of the lines of sight. The lenses *must be parallel*, which is to say that the line of collimation in one position must be parallel to that of the other position. Where the distance is but twelve feet, as in picture No. 3, I took a board of about that length, which I leveled and made secure. Measuring off twelve feet, I drew two lines perpendicular to the front edge of the board. I had only to place one side of the camera coincident with each of these lines and the front of the camera flush with the front edge of the board in each position to obtain the desired parallelism. Numbers 1 and 2 were obtained in the same manner. View No. 4 is an excellent example, as it demonstrates many points and, as will be seen, shows the ease with which all the conditions may be met and also shows what a great depth of stereoscopic effect may be obtained.

The farthest mountain in the view was estimated at something over a mile from the camera. The base line for a half mile would be 33 feet. I took arbitrarily 40 feet as the distance between lenses, which corresponds to a distance of about 3200 feet, which I assumed to be a fair average distance. The large house is distant from the camera 1200 feet. The mill in the foreground is 600 feet and the nearest foreground is about 300 feet from the camera. I selected the ground by eye so as to get a distance of 40 feet fairly level. At each end I set up a stake. Knowing the dimensions of the big house, I could easily lay off 40 feet by eye along its side. Focusing for the first picture, I made a vertical line with a pencil on the ground glass to show the position of the front end of the house. I also drew a short horizontal line to indicate the ridge of the roof. On setting up for the second view, I had only to make the vertical line correspond with a point on the side of the house, 40 feet from the front end. The horizontal line I again made correspond with the ridge, and I had my two lines of sight parallel and the camera either level or at the same inclination in both pictures. Theoretically the two lines of sight should be at right angles to the base line. This will apply in the case of very near views, because if not perpendicular objects in one picture might be nearer the camera than in the other; hence different sizes of images. But at long distances this ceases to be important, as the differences in size would be inappreciable. Therefore, I paid no

attention to exact perpendicularity, and as a matter of fact knew that the lines of sight were not exactly perpendicular to the base line. The essential principle, however, had been preserved, that of parallelism of the two lines of sight. I call particular attention to this view, which shows distinct and marked stereoscopic effects from the 300 feet foreground to the mile and a quarter background a range of solid effect that I confess I did not expect to obtain.

In an article on stereoscopy recently published in the *Stereoscopic Photograph*, which I have read with much interest, the writer has much to say about "planes." Now, of course, there is a new plane at every foot, or at every millionth part of an inch; that is to say, an infinite number of them. For the purposes of the distant view there are certain main or principal planes in the picture. In my stereogram No. 3 there are several principal planes. First there is the house in the foreground, as well as the foreground itself. There is the main house on the hill, the cottage below it, the tree, the rocks and the distant mountains, each being in a vertical plane of its own. Theoretically, the lenses can be separated correctly for only one of these planes; practically it is found that if some plane in the middle ground is selected, such is the latitude allowed by the formula, that all the other planes give more or less solid effects. Any reader may figure out and use a formula of his own, and though it may differ from mine, he may get good effects; as good as mine probably, provided he does not differ *too* much from my formula. Mine having stood the test of experience, is, however, good enough, but every one is welcome to make his own formula. What I am desirous of doing is to call the attention of stereoscopists to the necessity of separating their lenses beyond the conventional two and five-eighths inches or three inches, if they want to get stereoscopic effects in *distant* views. An inspection of any stereogram, where there is for instance an object in the foreground, such as a tree or bush, and another well in the background, such as a distant building, will show that there is no solid effect in the building. Of course, if the building were desired in solid effect, the tree would have to be omitted, as it is plain that with a movement of the camera of say twelve feet, the tree might be in one picture and entirely out of the other if it were close to the camera. This in no way detracts from the merit of my suggestions; the camerist must cut his garment according to his cloth, and if he wants a rose bush close at hand, make a picture of it in the ordinary way, but wanting a distant view, he must leave the rose bush out of it.

Fearing that I have already occupied too much space, I shall be obliged to bring this article to a close. I shall be amply rewarded if I have been able to throw any new light on the fascinating art of stereoscopy. A *good* photograph is a thing of beauty and a good stereogram is a joy forever. I never tire in looking at stereograms. I notice that the *Stereoscopic Photograph* lays much stress on the importance of one's acquiring the faculty of seeing a stereograph in the natural size of the view or object from which it was made. While that would seem to require a rather extensive stretching of the imaginative faculty, it would certainly make the acquisition of it much easier if the stereographic effect could be extended throughout the whole picture instead of being confined to the objects in the immediate foreground.

It is perhaps well to state that where stereographic pictures are made on separate plates the prints do not have to be reversed as in the case of a double picture on a single plate.

I recently received the last number of the *Stereoscopic Photograph*, and it has some interesting views taken in Martinique. They are stereoscopic, that is to say, so

far as the limitations of lenses less than three inches apart will allow. In a view on page 68 it will be noticed that the foreground is beautifully solid, but the background, which is the essence of the picture, is flat, resembling the back curtain in a theater. If one wanted only the foreground in stereoscopic effect, he has it in this picture, but if he wanted the background he must adopt some other way of getting it. I mention it simply because it illustrates my contention. Referring to the cloud of smoke on page 73, we have a picture with no immediate foreground; just the kind of picture to make according to my method. Even on ship board I could have obtained that picture with a decided solid effect, whereas it will be seen the effect is very slight; in fact, hardly perceptible. Of course, on ship board, or on account of the cloud possibly, rapidly changing shape, two lenses of the same focus would have been necessary. Any ship of decent size would be long enough for a base line.

The Interesting Side of Football Photography

By ARCHIE RICE

Illustrated by Earl C. Anthony and George V. Robinson



C—MICHIGAN THROWING ONE OF ITS TERRIFIC MASS PLAYS INTO STANFORD

*Copyrighted
by Earl C. Anthony*

Quick as a flash of lightning the camera catches and pictures some distinct part of a swift football evolution while the eye notes only the general effect of the combination of movements. Look at this series of significant photographs.

A is the Stanford-Reliance game in San Francisco last season. See that tremendous sweep of open grandstand. Two weeks later all of that and twice as much more held 16,000 spectators seated like densely covered hillsides of humanity about the arena watching Stanford play the University of California in the great annual game of the west. A Reliance man is temporarily laid out by the fury of Stanford's play. Stanford is lining up and waiting to renew the onslaught. That third man



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D—WHERE STANFORD HELD FOR THREE SUCCESSIVE TIMES FOUR INCHES FROM A TOUCHDOWN, ROOSEVELT STANDING THE BRUNT OF ATTACK WITH A BROKEN LEG AND A BROKEN RIB

from the left, there in the background, is Slaker from the University of Chicago, who was the line-bucking wonder of the Middle West till he moved to Stanford.

B is that same Stanford-Reliance game. Big "Bill" Trager, the finest tackle the Pacific Coast has yet produced, has actually hurled his opposing tackle aside upon his back and has burst through and tackled the Reliance runner out of the very bunch of interference, causing a loss of five yards by stopping the combined onrush of four men.

The picture marked C was made at the furious Michigan-Stanford game at Pasadena last New Year's day. Michigan, with a big guard brought back for added force and the right halfback sent ahead to break the way, is about to fire her most



B—A TACKLE FAR BEHIND THE LINE

By George V. Robinson

terrible tackle-killing play at Big "Bill" Trager. But the Californian stopped that first one and every other aimed at him during the terrible contest. See how Michigan's center has instantly dropped and grabbed his opponent by the legs, but not too cleverly for the camera to overlook the foul. D is another aspect of the Michigan-Stanford game. Right there is where Stanford, forced back half across the field at the outset by Michigan's fast and thrilling trick plays, made one of the grandest and pluckiest defensive stands ever seen on an American gridiron field. Michigan brought the ball to within four inches of that last white line for a first down. The rules permit three tries to gain five yards. Michigan had three chances to get across less than five inches. The highest head in the bunch is Roosevelt, a cousin of the President. A few moments before that he hopped to the Stanford captain and said



F—OVERALL OF CALIFORNIA KICKING FOR FIELD GOAL *By George V. Robinson*

he thought his leg had been broken by Michigan's terrible mass plays. "Stay with it, old man," said the captain. "You bet I will," responded "Teddy's" gritty relative, and he hopped back to his place.

Then three times in quick succession Michigan hurled all the fury of her mightiest formations right against Roosevelt. Every time Stanford held. The 8000 spectators there on the sun-kissed side lines went wild at that defense of Stanford's. They broke into frenzied cheers when Stanford took the ball and punted safely up the field. That bare leg in the foreground belongs to big McFadden of the present Stanford team. A few moments after this remarkable stand Stanford precisely repeated her defense by stopping three consecutive plays just on the other side of the goal posts when Michigan had but six inches to gain. And then it was learned, when he had to be



E—RELiance DOWNED INSTANTLY AFTER PASS

By George V. Robinson

carried off the field with two broken ribs, that Roosevelt had actually withstood the brunt of those wildest Michigan attacks and grittily played for nearly twenty minutes with his leg broken short off above the shoetop. That is why Stanford men proudly refer to Roosevelt's marvelous grit in the game against Michigan, the all-conquering college team that defeated everything in sight last year and piled up a total of 550 points to 0 by her eleven opponents.

The California-Reliance game (E) on the beautiful Berkeley campus this season was full of vim and interest. Behind on the right, with light leather shields on his



A—A RELiance MAN TEMPORARILY LAID OUT BY FURY OF STANFORD'S PLAY

By George V. Robinson

shoulders, is the giant Overall, California's tower of strength. He has just punted and started forward. One of the striped Reliance players has caught the ball and tried to advance it, a flock of his team-mates rushing to his assistance. But a California tackler has bowled over one man and downed the fellow with the ball, while a college end has come in on the left and sent another clubmate sprawling.

Overall, the greatest kicker on the Pacific Coast this season and the most powerful lineman California has ever had, is shown (F) in the instant of trying for a field goal from a place kick. Hudson's hand has not yet fallen from where it rested on the top of the steadied ball, while Overall's kicking leg shows as clearly as though it were posed for a time exposure instead of being pictured in swift motion.

THE TECHNICAL PHASE OF FOOTBALL PHOTOGRAPHY

A focal plane shutter, fast plate and a careful and steady eye are a few of the requirements in making successful football pictures. A knowledge of the game is another requirement if you desire to interest football people in the pictures, otherwise you would be wasting plates on plays that have but little interest to the enthusiast. The carefully arranged trick plays in a game are often responsible for the ultimate success of the winning team, and to portray one of these plays at its climax is to gain undying fame in football circles. The photographs accompanying this article are selected from several hundred and include a few that have become famous in football history.

Most of the pictures were made at from 1-500 to 1-800 second, and but few of them show signs of under-exposure, even though they were made late in the afternoon as the shadows indicate. For the benefit of those who have a focal-plane outfit the following formula is offered as giving the best results in developing fast exposures:

No. 1—Pyro	40 grains
Metol	35 grains
Metabisulphite of potash.....	90 grains
Bromide of potash	15 grains
Water	20 ounces

No. 2—Carbonate of soda	3 ounces
Water	20 ounces

This is a most energetic developer, and the plates flash up all over as if from over exposure, but the resulting negatives are soft and full of detail. Ofttimes the most satisfactory results are obtained from stand development with the following formula:

Hot water	10 ounces
Glycin	100 grains
Sodium sulphite	100 grains
Potassium carbonate	500 grains

Dissolve the sulphite and glycin in boiling water and add the potassium carbonate slowly as it effervesces. Use a rubber or composition fixing box and be careful to use enough developer to completely cover the plates. Over exposures will be developed in fifteen minutes. Under exposures will take several hours.

Photographic Possibilities in Mexico

By ARNOLD GENTHE

Illustrated by the writer

Most people are under the impression that the winter months are the best time for visiting Mexico. To be sure, there is no rain then and the temperature near the coast is lower than in summer. But though perpetual sun and an ever cloudless sky are very beautiful for a while, they become somewhat monotonous to the man in quest of interesting atmospheric effects, and, besides, it is quite an erroneous idea that the climate during the summer is too hot. As a matter of fact, the altitude (the table lands of Mexico are from 4000 to 8000 feet high) and the cooling breezes from the snow-covered mountains make an absolutely ideal summer climate that is perhaps



CONDENSED MEXICO—SPLENDID CATHEDRAL, SQUALID DWELLINGS, BURROS AND SOMBREROS

nowhere excelled in the world. It is only in the "Tierra Caliente," the narrow coast belt, that one has to suffer from the disadvantages of a tropical climate, which are unknown on the elevated table lands and even on the slopes fifty miles from the coast. The temperature is about the same as during April and May in California. Of course, it rains every afternoon, but that is rather a blessing for the traveler as well as for the artist. The clear morning sky, with its dazzling sunlight will gradually be covered with clouds rising up from the horizon, until in the afternoon the most beautiful and phantastic formations delight the eye of the man with a camera. At three or four o'clock, hardly ever before that time, it will rain for one or two hours, and then the sun bursts again victoriously through the rainy mist, flooding the sky with a light that in the variety of its effects produces a spectacle beautiful beyond



A WATER-CARRIER
OF GUANAJUATO

description. In a word, to the artist in search for pictures the atmospheric conditions are simply ideal during these summer months.

In most cases the suburb will prove more interesting than the town itself. It will be more primitive, and also dirtier, but it will have more "local color." There, as well as in the small villages, you can find houses that suggest Egypt or the Holy Land, and the contrast between these shabby dwellings of the impoverished inhabitants and the everpresent magnificent church will be a most fruitful theme.

It would be worth while to make a trip to Mexico for no other purpose than to photograph the "patios," or courtyards of the private residences, rich or poor. The average tourist will hardly ever see them, because he may be afraid of the doorkeeper or the dirt and the bad odors; but neither of these are offensive in a picture and I don't know of a finer opportunity for getting interesting light effects than in these Mexican patios. Or one might go down there and photograph only the water-carriers, of which each town has a most distinct type. Or one might make a study of the markets, which offer the best opportunity for getting to know the real people.

Photography in Mexico is still in its infancy. The professional man has reached about the level of the Photography of twenty years ago. Portraiture, even in the best studios in the city, is helplessly conventional, and the landscape work that is being done is hardly less commonplace.

If you go to Mexico, be it in summer or winter, you will find ample material for your camera. It is an inexhaustible treasure-land for the picture seeker, full of splendid possibilities that have hardly ever been fully recognized.



IN THE SUBURBS

CAMERA CRAFT

ISSUED MONTHLY BY

THE CAMERA CRAFT PUBLISHING COMPANY

114 GEARY STREET, SAN FRANCISCO

Edited by CARL E. ACKERMAN

VOL. VI

SAN FRANCISCO, CALIFORNIA, NOVEMBER, 1902

No. 1

A New Dress

With this issue CAMERA CRAFT begins its sixth volume, and in honor of the event the magazine is given an entirely new dress from cover to cover. We hope that the change will make the pages more attractive and interesting than ever before, and if our endless experiments have resulted in satisfaction to our readers we have been well repaid. The type foundries of the world have been searched for suitable faces, and we believe that at last we have secured the prettiest and most pleasing combination now used on any magazine.

With the new dress the publishers have renewed their efforts to make every page attractive, readable and instructive. No expense has or will be spared, and if our readers will glance at the programme for 1903, printed elsewhere in this issue, it will be seen that this policy will be continued indefinitely.

If CAMERA CRAFT is not now one of your regular visitors, do not let the impulse go by, but send in your name to join the thousands who look forward to the coming of the magazine as they do the holidays.

Camera Notes

The first copy of *Camera Notes*, under its new editor, Mr. Jaun C. Abel, has just been issued. Naturally, its appearance has been awaited with interest, and by some of us with apprehension. With the last number under the old management on the table it is impossible to abstain from comparison. The new *Camera Notes* must be considered from the double standpoint of its subject matter and its pictures. The latter are uniformly good and interesting, and the frontispiece is a work of art, but Stieglitz and his coadjutors set a standard that will be hard for his successors to maintain, and though this number is good it gives point to the old adage that comparisons are odious.

In the subject matter it is in a much stronger position. The articles under the old order were limited in their scope and too much devoted to a prolonged polemic, which to most readers was simply tiresome. The new management promises to cater to photographers at large, the technical as well as pictorial, and an interesting collection of articles is their first contribution. On this it is to be congratulated. The publication appears in an entirely new dress, very elaborate yet in good taste.

Is Photography a Fad?

CAMERA CRAFT's interview with Mr. George Eastman, printed in the September number, has been productive of much comment in the photographic business world. The enterprise of the Magazine in interviewing the famous manufacturer and giving publicity to his views upon trade conditions has everywhere attracted favorable

criticism. Some writers have disagreed with Mr. Eastman's statement that Photography has never amounted to a fad, but as Mr. Eastman is in a far better position to judge of the matter we are inclined to believe that he is correct. There is not the slightest doubt but what a great many people have engaged in Photography simply because their friends and associates were similarly engaged, but no one can say that Photography has swept over the country, involving every city, village and hamlet in it like the ping-pong craze or "Panamahatma." Rather may it be likened to the automobile business, steady growth resulting finally in the almost universal use of the machines. Again, it may be likened to the golf movement, at first arousing the comic papers to humorous comment, but now accepted as one of the standard athletic pastimes of the country.

No, Photography is not now nor never has been a fad. Its course has been steady and sure, and we are at this day entering into the brightest and best phase of the movement, we are beginning to realize the possibilities of our instruments, the manufacturers are studying our wants and simplifying our processes, and the ranks of the photographers are becoming stronger and better equipped than ever before.

"Resting on the Oars"

The concern whose advertisements appear only occasionally loses one of the most valuable elements in attracting business—the cumulative effect of regular announcements, which makes the name familiar and associates it with the articles advertised. This effect can be produced only by persistent use of appropriate mediums, and when once secured it can be maintained only by the same means. It requires just as much effort to hold prestige as to gain it, and there can be no "resting on the oars" for the man who would keep abreast of or beyond competition.—*Mahin's Magazine*.

Especially is this true in a photographic medium. Through constant and judicious use of advertising space the Eastman Kodak Company has created a world-wide demand for its products; Ed. Newcomb has grown to affluence through continually crying his plate-backing, and CAMERA CRAFT has gained its great circulation through wide publicity. If the article advertised is meritorious, advertising will sell it, but it is the continued hammering through legitimate mediums that make the great business successes. If the Eastman Kodak Company suddenly stopped all of its advertising the result would not become immediately apparent to the dealers, but it would be felt at the home office, and that in a hurry. It is the same in every field of advertising. To convince the public that it needs an article, not only needs it but must have it, there must be no "resting on the oars."

St. Petersburg Exhibition

Russian photographic interests have suddenly awakened to the fact that exhibitions have been of great value to American and European photographers, and with characteristic thoroughness have laid plans for an exhibition destined to be one of the greatest ever held. The Heir Apparent to the Russian throne has interested himself in the movement and advices received from St. Petersburg indicate that the most extraordinary enthusiasm prevails in the ranks of the photographers throughout the Russian empire.

The space assigned for the exhibition is one of the most favorable in St. Petersburg and as every branch of the photographic industry will be represented in addition to the art show, the exhibition assumes the proportions of an exposition, and as such will be watched with interest by all countries.

Bromide Printing

By C. WINTHROP SOMERVILLE

The economical and certain production of a bromide enlargement is not an easy attainment to those who have had but little experience in the work; so it is with the object of removing the thorns from the path to successful work that the following method is given.

Serious waste of paper and hopeless disappointments which invariably accompany first efforts have a tendency to discourage further work in this direction, and the abandonment of what is one of the most useful, beautiful and often most necessary of photographic processes.

One of the drawbacks put forth by those who have been even fairly successful is the great difficulty in obtaining a desired tone in black and white, asserting that all depends upon the negative, which, if it be one of excessive contrast, technically known as "hard," then the bromide print will also be hard; should the negative, on the other hand, be "soft," "weak" or "thin," so will be the print. That this does not always necessarily follow, although true to a great extent, and the remedies for such difficulties I now hope to show.

By some workers correct exposure is regarded as an absolutely essential factor for the perfect rendering of a bromide print. While not denying this as a general rule, I will say emphatically that it is not always the most certain means of obtaining the best result from a negative.

Varied tones and effects may be obtained by modifications of both exposure and development, and should always be made in conjunction with one another; their limits, however, will not be described here, as this article is written with the object of removing obstacles rather than involving complications.

Rodinal in the concentrated form as purchased is the developer I use both for this and all my other work, finding it constant and clean and quite free from stain; and being a single solution extremely simple for modification, requiring only the addition of water or bromide, as the case requires.

The following is a normal developer, that is to say, one that would completely develop a correctly exposed print in about two minutes, which is about the minimum time for rodinal. Therefore, if another form of developer is used, modifications must be made on the same scale:

NORMAL DEVELOPER

Rodinal	25 minims
Potassium bromide 10 per cent	2 minims
Water	3 ounces

I, however, never use the normal strength in the first instance unless I have a large number of contact prints to develop, but always commence with what I call the "first-stage" developer, given below.

Prepare the following for a 15x12 print:

Rodinal	5 minims
Potassium bromide 10 per cent	1 drop
Water (tap)	3 ounces

This should be quite sufficient for the size of print, and to use a greater volume is not only unnecessary, but makes it difficult to pour back into the measure without spilling. Drain the water from print and flood with developer; the image should appear in about two or three minutes very weak and ghost-like, and as this is the all-important stage it should be carefully watched. This is the first stage of development, and should be continued till the details in the shadows are just visible, when the developer must be poured off, and the print flooded with water and left in it till the new developer is prepared. The appearance of a correctly exposed print at this stage, is very similar to that of an over-exposed platinotype before development.

Having arrived at the first stage, we now have the option of finishing the print in any tone desirable, ranging from the most delicate of dove-gray to the deepest of the much-coveted (why, I don't know) velvety blacks.

For a soft gray tone add to the developer:

Rodinal	5 minims
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Drain off the water from the print (which will have continued to develop slightly), and continue development till complete, which should be in about four or five minutes. If the image contain an excess of deep shadow, more rodinal may have to be added to completely reduce the silver; there is no fear of carrying development too far, as a correctly exposed print cannot be over-developed when using a weak or normal developer.

For a more vigorous tone add to the original developer:

Rodinal	30 minims
Potassium bromide 10 per cent	5 minims

Development should be complete in two or three minutes, and here again, if there be a large proportion of deep shadow and the image show a tendency to hang fire, more rodinal must be added, and development continued till any muddiness of the shadows disappear, and they assume a clear depth of tone as the required vigor is obtained.

"Almost as good as a platinotype; could hardly tell the difference," is a criticism commonly expressed on a bromide print by those who know little or nothing about the process, and whose work would assuredly make the bromide process, were it human, hide its head in shame. It is absurd. When properly worked, with its power of range and variation, exquisite beauty and delicacy of tone, bromide paper has no rival. Its manufacture is an art, which, by the way, is not possessed by all makers.

ERRORS IN EXPOSURE

One of the most valuable attributes of bromide paper is the facility with which errors in exposure may be corrected, and with careful manipulation, to such an extent that incorrect exposure thirty per cent either way may give no anxiety for the quality of the finished print.

If a print be under-exposed, the details at the first stage of development will be hardly visible, while the high lights and shadows will show greater contrast, there being little or no half-tones present at the weak state of the image.

Prepare a fresh developer as follows:

Rodinal	5 minims
Water	3 ounces

Continue development as far as it is possible. Do not be afraid of staining the paper with prolonged development, as the developer is too weak to do any damage in that direction, especially if rodinal is used, which would not stain if the print were left in for hours. On the other hand, keep well away from the light, which, however safe, always has some effect on the emulsion; and if the time required be very long, say half an hour—I frequently take an hour or more over the first stage of development—it is advisable to cover the dish and give it an occasional rock.

If using rodinal never add bromide to this developer except in very warm weather, and then only a drop to prevent chemical fog; other developers, notably metol, may require it, but only sufficient to keep the whites pure.

When developed as far as it will go, add to the developer:

Rodinal	10 minims
Potassium bromide 10 per cent	1 drop

This should be sufficient to give the required depth of tone in five to ten minutes; if, however, there be a tendency to hang fire, a fresh developer of the same composition should be applied.

The object aimed at is to secure all the detail possible without producing the hard "chalk and soot" appearance characteristic of under-exposure; the weakness of the developer and prolonged immersion has the tendency to bring up the detail and keep the image soft.

Over-exposure may often be regarded more in the light of a friend than an enemy; but in this article I shall treat it as a foe to be overcome by dexterous manipulation.

When known to be excessive, the developer for the first stage should be modified thus:

Rodinal	5 minims
Potassium bromide	5 minims
Water	3 ounces

(With slight over-exposure, reduce the potassium bromide by half.) This will take some considerable time to reach the first stage, but patience must be exercised if success be desired; if, however, it takes longer than five minutes, add another five minims of rodinal.

The first-stage image will differ from the correctly exposed print in that probably all the details of the shadows will be visible, while there will be little or no contrast; the whole presenting a very flat appearance.

Add to the developer:

Rodinal	40 to 50 minims
Potassium bromide 10 per cent	10 minims

Watch the image under the action of this developer very carefully, as I have sometimes found it to act in a very peculiar manner; the cause of which I have as yet been quite unable to discover, often finding that a second print, under precisely the same conditions, will not work in a similar way. Upon applying the developer, I have had the print rush off into an over-developed state without the slightest chance of saving it. For the beginner, it were better to use a developer slightly weaker, say:

Rodinal	30 minims
Potassium bromide	10 minims
Water	3 ounces

This will have a tendency to make the finished print rather flatter, but it can be remedied by intensification, the formula for which I will give later.

A Photographic Digest

By H. D'ARCY POWER, M. D.

Mr. Ives' Parallax Stereogram

The Annual Exhibition of the Royal Photographic Society of Great Britain is divided into pictorial and scientific sections. This year the medal of the later section is awarded to our countryman, Mr. Ives. Br. Bolas, writing in the *Amateur Photographer* (English) says:

This adds one to the list of stereoscopic curiosities by which a stereoscopic effect can be realized without the use of any special instrument by the beholder, and in this respect it ranks near to the Clerk-Maxwell system of real-image stereoscopy as used by him in the class teaching of solid geometry. In the same class we have the crystal cube of Mr. Henry Swan, and the Claudet stereo-monoscope, which was exhibited at the Polytechnic Institute some forty years ago. The introduction of Mr. Ives' parallax stereogram may possibly revive the popularity of open-vision stereoscopic effects. In appearance, Mr. Ives' stereogram somewhat resembles an ordinary transparency backed by ground glass, the positive transparency consisting of narrow vertical stripes or bands about one-seventieth of an inch wide, and derived alternately from the two halves of a stereogram. If such a composite positive is viewed in the ordinary way both aspects of the original subject are seen as superimposed, and a confused or double image is the result. In order to so arrange matters that each eye sees its appropriate image, a suitable screen of opaque lines on glass is bound up with the composite positive, and about a twentieth of an inch in front, a position being found at which the opaque lines allow each eye to see its appropriate image, and true stereoscopic effect is thus produced. A slight shift in the angle at which the parallax stereogram is held to the visual axis causes each line of the screen to cover a line of the wrong transparency, and pseudoscopic effect results; still, with very careful adjustment, an intermediate position may be found in which each line of the screen covers half of two consecutive stripes. Under these circumstances, each eye will see both halves of the stereogram and confusion of images will result. The parallax stereogram is in many ways interesting.

The A B C of Photography

By FAYETTE J. CLUTE

This is one of those concise and lucid little expositions of photographic methods that to the beginner is simply invaluable, and from which even the old worker may often gain points. Seeing how many of these guides are on the market it would seem as though any addition were entirely superfluous, but a perusal of these pages will readily prove that this is not so. Mr. Clute has an excellent style of exposition and knows the beginner's difficulties. However, there are points on which I would differ with him. For example, speaking of exposure, he says: "An exposure meter is a great help, but experience founded on careful observation is the best guide." We think that this position is being steadily abandoned, even by those who through great experience are more independent of light meters. No experience can ever approach the mathematical accuracy of a good meter. Again, Mr. Clute truly says that the inversion of the image on the ground glass is a perplexity to the beginner, but he fails to mention that the perplexity can be entirely and most simply removed by viewing this image as reflected on to a piece of mirror glass. Nevertheless these are minor matters. The book is excellent.

Writing on Negatives

Speaking of Mr. Clute's book causes me to refer to a little dodge therein described which is most useful and works first rate, as I can vouch for by personal experience. Numerous ways are constantly being given to write on negatives. The method advocated by Mr. Clute is simple and effective. It is to write in *copying ink* the desired words on "a piece of good hard-pressed letter paper," let it dry, then wet the negative and dry off the surface water, put the piece of writing on the desired spot on the negative and press it down; leave it contact for a few minutes and slip the paper off. The ink will now have adhered to the gelatine as in the making of an ordinary copy from a letter. This is, of course, reversed, but prints correctly.

Focusing Enlargements

From practical experience thereof I can aver that the following answer given by *Photography* to the question of a correspondent will give all that is promised:

What is the best method of focusing when enlargements are being made? Do you recommend that an open frame should be used as the easel in which a sheer of ground glass can be placed to focus upon, and then substitute the plate, or to pin a sheet of white cardboard on a flat easel, focus on that, and then substitute the plate?

There is always a little trouble in getting fine focus when enlarging to several diameters; the light is necessarily poor, and as the eyes must be withdrawn from the work while the adjustments are being made, the critical point may easily be overpassed on one side or the other. The best plan is to pin to the easel a sheet of cardboard the same thickness as the plate, and get the image on that the correct size and as sharp as possible. A small piece of printed matter should be pasted in the center of the board, when critical definition may be obtained by focusing at the other end of the optical arrangement. The negative should be removed from the camera, and a sheet of clear glass put temporarily in its place. Upon this the printed matter on the easel may be brought into sharp focus by means of a focusing eyepiece; when this is done and the negative replaced, the definition on the easel will be as sharp as the lens and negative will permit. When the work is being done by daylight, and the camera is fitted against the room window this method will, of course, not be possible. In that case a piece of clear glass may be fitted in an opening in the center of the easel in the same plane that the sensitive plate will occupy, and after the general arrangements have been carried out, fine focusing may be done as before with the focusing glass. The use of clear glass is suggested, as if ground glass is employed the eyepiece will magnify the grain and lead to confusion.

American Photography at the London Salon

The (English) *Amateur Photographer* reports an interview with Mr. Frederick Evans, the very successful designer of this year's salon, in which the artist in question is credited with the following pertinent remarks concerning our pictures there:

"What do you think of the Yankee portraits?"

"Some of the stuff from across the Atlantic strikes me as very fine. Mrs. Kasebier, I have little hesitation in saying, is the best portrait photographer in the world, and Steichen has produced some outstandingly distinctive work. The Americans are at present ahead of us in figure work, because they were the earlier to escape from the trammels of hard and fast tradition. Their landscapes I like less. But a good portraitist is rarely a good landscapist, too. The reverse is likewise the case. But it is on portraiture that the future of pictorial Photography mainly depends. I am certain that when a great portrait photographer appears he will beat painter portraitists on their own ground."

Gum Bichromate Receipts

I am indebted to the *Photographische Mitteilungen* for the following receipts given by M. A. Sanchez in the *Photo Revue*:

BLACK

Lampblack	0.60	grams
Red ochre	0.25	grams
Indigo	0.10	grams
Ammonium bichromate, 10 per cent solution .....	.5	C. C. M.
Gum, 35 per cent solution .....	.5	C. C. M.

CHESTNUT BROWN

Lampblack	0.60	grams
Red ochre	0.55	grams
Indigo	0.15	grams
Ammonium bichromate solution .....	.5	C. C. M.
Gum solution .....	.5	C. C. M.

RED CHALK

Lampblack	0.05	grams
Red ochre	0.95	grams
Ammonium bichromate solution .....	.4	C. C. M.
Gum solution .....	.6	C. C. M.

BISTER

Bister	0.5	grams
Ammonium bichromate solution .....	.5	C. C. M.
Gum solution .....	.5	C. C. M.

BURNT SIENNA

Burnt Sienna	1.25	grams
Ammonium bichromate solution .....	.4	C. C. M.
Gum solution .....	.6	C. C. M.

UMBER

Umbre (burned?) .....	.2	grams
Ammonium bichromate solution .....	.5	C. C. M.
Gum solution .....	.5	C. C. M.

SEPIA

Sepia	1	gram
Ammonium bichromate solution .....	.5	C. C. M.
Gum solution .....	.6	C. C. M.

BLUE	
Indigo	1 gram
Ammonium bichromate solution	6 C. C. M.
Gum solution	5 C. C. M.
GRAY	
Payne's gray	1 gram
Ammonium bichromate solution	4 C. C. M.
Gum solution	6 C. C. M.

In all the above solutions the ammonium bichromate is of a strength of ten per cent and the gum thirty-five per cent. In all cases there is to be added three drops of glycerine and two drops of hydrochloric acid. The former helps to preserve the half tones, the latter makes the pigment more retentive during development.

A New Hardening Solution

The use of alum and chrome alum as hardening agents, both in negative and positive work is universal, and till the introduction of formalin we may safely say that there were practically no other hardening substances used. Of the two, chrome alum, which, by the bye, has no aluminium in it, was considered the better, its action on gelatine being to raise the melting and setting point from eight to ten degrees. So far as we are aware, there has been no systematic investigation of the tanning effect of these two alums, and the statement that they did harden having been made, it was accepted, and passed on from writer to writer till it has become axiomatic. Professor R. Namias, who is well known for his photographic research, has been examining the action of the alums, and he has found that chrome alum has really very little effect, and this, he says, is due to the acid character of the salt, and that if it be mixed with excess of solution of ammonia and heated till there is only a slight precipitate of chromium hydroxide left, its tanning action is so increased that a 20 per cent solution will, after one hour's action, prevent even a 2 per cent solution of hydrochloric acid from causing the gelatine to swell, and that after twelve hours the gelatine has lost its suppleness. As the result of his experiments, he suggests the use of the following mixture, and states that its action is so great that a negative film after treatment by it will not expand when treated with hydrofluoric acid for stripping, and, further, gelatine thus treated has not the characteristic green colouration given by chrome alum. A 10 per cent solution of chrome alum, neutralized with ammonia so that some of the

chromium hydroxide is left in suspension is to be mixed with a 10 per cent solution of ordinary alum and then boiled for some time. About 1893 Dr. Stolze suggested for tanning gelatine-chloride papers a solution of chrome alum which had been rendered distinctly alkaline with ammonia, his reason being that the gelatine was less likely to be stained by this than by the ordinary solution, and that it did not make the film acid; but he did not state that it rendered it harder, though he recognized that the alkaline solution was equally as effective in this direction as the acid.—*British Journ. Phot.*

Misplaced View-Finders

The letter from a correspondent, that we published recently, details a trouble that many have met with when relying on the finders as fitted to their cameras. Our correspondent found a remedy in his case—though only after negatives had been marred—by “driving a nail in the body of the finder.” In this case the remedy, though practical, would not be a desirable one to adopt with a costly apparatus. View-finders are more often than not placed in the axis of the lens, more especially in the cheaper forms of cameras. Consequently, the picture as seen on them does not coincide with that found on the negative when developed, which too frequently leads to disappointment, the subject found on the negative as regards composition, being quite different from that shown by the finder. This is especially likely to be the case with those finders that are hinged, through the hinges not being properly fixed. They may be right when used horizontally, but just the reverse when turned vertically. If purchasers of cameras were to test their finders before using them, by, say, placing them at a window and comparing the image as seen on the ground glass with that shown on the finder when that is in an alternately vertical and horizontal position, any discrepancy is easily rectified. A small slip of thin cardboard or thick paper at one end or other of the fitting will usually do the needful. There is another point in connection with finders which often applies not only to the cheaper forms of cameras, but to some of the more costly ones, namely, that the angle of view shown by the finder does not coincide with that obtained in the negative. It may be more, or it may be less, as the case may be. This, however, is of minor importance when it is fully realized, as it is easier to make mental note of the discrepancy and

to allow for it when fixing on the point of view from which the picture is taken. Adapting a finder, or finders, to a camera that includes exactly the same angle as the lens, and at the same time is precisely in its axis when the camera is used either horizontally or vertically, requires greater time and care than can be bestowed on cameras that are sold for one or two pounds. Purchasers of new cameras, whatever price may be paid for them, would do well if they spent an hour or so, and a few plates or films, with them in a "full-dress rehearsal" before taking them on a tour away from home. If this were always

done, much disappointment would often be avoided.—*Brit. Journ. Phot.*

Artificial Camphor

Chemists have long been seeking the synthetic production of camphor, which on account of its increasing use in the manufacture of celluloid is becoming increasingly valuable. We learn from *La Nature* that a M. Callemberg has succeeded in its preparation on a commercial basis. It is to be hoped that a like success will soon attend the search for artificial rubber which is of even greater importance in its many industrial uses.

The Amateur and His Troubles

By FAYETTE J. CLUTE

Titles on Prints

I saw an album at the house of a friend the other evening that contained prints from all parts of the country. I inquired if he had traveled so extensively as to secure all those negatives himself. He replied that the prints were from the negatives of at least twenty-five different amateurs in as many different localities. He explained that he had titled them all himself in the manner seen because titles on separate slips seemed to deface the album and an index in a separate book was hardly advisable. As I had always supposed that the lettering of the negative was a preliminary to white titles on the print, unless done in ink or color, I was interested at once. This is the method employed: Write on a dark part of the finished print with a chemical ink made as follows: Potassium iodide, twenty grains; water, one drachm; iodine, two grains; gum acacia, two grains. As soon as the letters turn yellow, plunge into a fixing bath. Remove in a couple of minutes and wash thoroughly. This is, of course, only applicable to papers carrying a silver-formed image. It requires no reversed writing and if carefully done the lettering comes out clear and white against the dark portion of the print.

A Vacation Experience

Thompson came back from his month's vacation in Southern California last week. Besides contending with hot weather troubles

he made about one hundred $6\frac{1}{2} \times 8\frac{1}{2}$ negatives without the aid of a focusing screen, focusing scale or finder. At least without those of the ordinary kind. On arriving at his destination he found the ground glass of his camera broken into about 'steen hundred pieces. He replaced it with a stiff piece of cardboard in which he cut a few holes about an inch in diameter. Over these openings he fastened the larger pieces of the broken ground glass. They were glued on the inside, ground surface outwards. The cardboard being the same thickness as the original ground glass, this reversing of the ground surface compensated for its thickness. Later he erected a rough but light, wooden frame; the same size as the plate, directly over the lens. By holding a small stick the length of which equaled one-half the perpendicular of the plate, upright, with its lower end resting on the center of the camera back, he had a finder that allowed him to see at a glance just what was included on the plate. He placed his eye at the upper end of this improvised sight and observed the view included within the frame erected over the lens.

Talking about hot weather, he said that it was so warm that the varnish on his slides stuck tight to the holders in one or two cases where he was careless enough to leave the case standing in the sun too long. He tried developing, but gave it up and threw the developer away. Later, he very much desired to develop a certain plate, and, having

made duplicate exposures, he decided to try some Amidol that he had carried in dry form for velox prints. Although the weather was warmer than at the time of the previous attempt, the emulsion did not soften in the least. He wondered he had not thought of it before. Amidol developer, containing as it does, no alkali, would of course be less liable to soften the gelatine emulsion. When used under these conditions it should be well restrained with bromide or the negatives will incline to flatness and even fog.

A Hint on Home Portraiture

In attempting cabinet-sized heads by an ordinary window one soon discovers that the lower the sitter can be seated the further he can be placed from the window and therefore the better the lighting. An amateur friend uses an ordinary kitchen chair that has had a few inches sawed from the ends of the legs. If any of your sitters remark on the poverty of your studio furnishings you can truthfully assure them that the "only" Hollinger uses the same kind of a chair. This sawed-off specimen, however, will be found too low for some and the back will not allow of a good position of the shoulders in the case of other sitters. This occasional fault my friend overcomes by using a long, bolster-shaped cushion. Folded up compactly it raises the sitter to any desired height. Unrolled so that only one or two thicknesses remain on the seat, the sitter can be placed much lower. This ready adjustment of the seat permits the operator to obtain that normal poise of the shoulders and easy disposition of the feet so conducive to good portraiture. Regarding the latter statement, experienced photographers will recognize its applicability. It is a well-known fact that if the seat be low enough to raise the knees above the hips, or so high as to keep the feet from resting easily on the floor, one is greatly handicapped in the attempt to obtain a pleasing portrait.

What Constitutes Beauty

One of the painters, I think it was Hunt, laid down this axiom: "It is the definite, individual character of an object which makes beauty. The effect of light is what makes things beautiful. Half the beautiful pictures in the world are painted from people who are not beautiful." A much more thorough appreciation of these facts would greatly increase the artistic value of our own productions. Examine some of the reproductions of

the best photographic work shown at the salons and see how well these rules apply. The dirty Thames with its smoke and fog; the rugged and barren hillside; the narrow, untidy, side street of some old city; the stretch of marshy, uninviting weir; all are subjects from which Photography has enabled us to produce most pleasing pictures when we have succeeded in obtaining that portrayal of them that brings out their individual character. One of H. P. Robinson's best landscape pictures, Foxhall Quarry, had for its subject simply a large cavity in the side of a hill. He had the perception to recognize the beauty that a certain lighting gave the scene; beauty that lay in this "definite, individual character" that Hunt explains. Even seemingly repulsive scenes have been the subjects for most effective pictures. A few dirt-begrimed sheds, evidently the least attractive aspect of a large manufacturing plant, were used as material for one of the most highly praised pictures of a recent salon. There was a portrayal of the steam and smoke that enclouded the subject that was indeed an interpretation of the definite, individual character of the scene. That we are wasting time in our search for beauty spots is evident. Let us, instead, look for character and good effects of light and shade to bring it out in the scenes about us. Our work will be the better and our enjoyment greater for so doing.

About Asking Questions

From some of my recent correspondence I think I have found out where the trouble lies in a good many cases. Just the ones I wish to help by answering their questions are too often afraid they will display a little lack of photographic information or else fear that the simple questions that they would like to ask are not the kind that are expected. When I do receive a letter of inquiry from one who has none of these false notions, it is most refreshing. Last week, for instance, a reader in a nearby city wrote to inquire what size darkroom lamp I would advise him to use for a $3\frac{1}{4} \times 4\frac{1}{4}$ Folding Pocket Kodak. As he wishes to be answered in this department I can only explain that the size of the lamp is not material as long as it gives him plenty of safe light. A light from a lamp glazed with 18x22 glass is just as safe as one using the same quality of ruby-colored glass whose surface is but two inches square. It is the non-actinic quality of the light allowed to pass

by the sample of glass used, and the distance from the light at which development is done that regulates the adaptability of any dark-room light to the use of the photographer. Size, beyond being more convenient as it increases, has no effect upon the results. The same reader wishes to know what is the best developer for films. The best is the one that gives him the desired results. There is a certain amount of what is called the "personal equation" that enters into the process of development more than in any other photographic process. Any good developer will give good results. Each formula offered has its champions. Later on my correspondent, like all the other "new beginners" as he signs himself, will give up the quest for "the best developer" and settle down to some one that he has learned to handle and recognize the fact that it is not the developer but the way that it is used that makes good negatives. The third question is: "If I focus at twenty feet, how large an image will I get?" If he is using a lens of about four inches focus, and wishes to photograph a person at a distance of twenty feet he will get an image of an ordinary sized person, about one and one-quarter inches high. If the lens be nearer five inches in focal length the image of the same person at the same distance will be nearly a quarter of an inch taller. An eight-inch lens will give the same image twice as large as did the four-inch lens and one of sixteen inches focal lengths will give an image at twenty feet distance about five inches tall. It is the focal length will give an image at twenty is focused upon, that governs the size of the image secured. Will the rest of the "new beginners" come forward and make their wishes known?

The Kodak Developing Machine

Two of my correspondents this month ask if there is not great danger of getting hypo in the developer if one uses the machine for both developing and fixing. I answer most of the inquiries that reach me, by mail, but this may interest others. Some years ago I was horrified to find one of my idols in the photographic ranks developing and afterward fixing some bromide enlargements in the same tray. I told him what all the authorities said. He did not care what they said. If the same washing that would remove hypo from a gelatine film and the fiber of heavy

paper would not remove it from the surface of an enamel-coated wooden tray, he had missed his guess. The prints were developed, fixed and washed in the same tray. Later, when I learned that a little hypo solution in the Hydroquinone and other developers was a good thing when one wanted clear, contrasty negatives from poor originals in black and white copying; I lost all dread of hypo in the developer. Of course, if one dips a finger in hypo and touches the plate, it will cause trouble. The same thing will happen if you tried the trick with a strong solution of your Hydroquinone or other developing agent. I can assure my correspondents their fear is not well grounded.

Marine Photography

This and the following month are perhaps the best two in the year for marine work. I am going to try for a few surf scenes myself if I can find the time. Preparatorily, I got out my box of odds and ends of clippings and the like the other evening and after sorting out this class of prints and reproductions, gave them a good hour's study. My deductions may be interesting and so I will give them here. A long focus lens should be used. One can hardly get the breakers too large, ordinarily, and besides, it is easier to move backwards than to crowd too far forward when doing this class of work. Another thing, there is a perspective to waves just as much as there is to other things. If the second or third incoming wave seems to be a half mile out to sea the effect is not so good. A low point of view is another important factor in pleasing work. By foreshortening the foreground the breakers seem to follow in that rapid succession which we expect of them. The sloping forward effect so often noticed in this class of pictures is also avoided. Too short exposures must also be guarded against. My own experience tells me this as well as allows me to say quite positively that the best rendition of moving water in the form of waves or breakers is secured with an exposure of between one twenty-fifth and one fiftieth of a second. As too small a stop is destructive of all atmospheric effect it is advisable to use a plate of medium rapidity. My own most satisfactory negatives in the past were secured on some Cramer double-coated Isochromatic plates that were made to order before the firm put them on the market regularly.

Notes and Comment

A New Camera

A new camera at this time of the year is a novelty, but as the Century Camera Company has given the photographic world more than one surprise it does not come altogether unexpected. The camera in question has been christened the "Petite Century," and weighs but seventeen ounces. It is said to be a perfect combination camera, using both glass and cartridge roll film, and is fitted with all of the adjustments peculiar to the Century line. It makes $3\frac{1}{4} \times 4\frac{1}{4}$ pictures and the outside measurements are $1\frac{7}{8} \times 4\frac{1}{4} \times 5\frac{1}{8}$. Coming, as it does, in ample time for the holiday trade, it should be a ready seller.

Splendid Work

The California Promotion Committee extends a cordial invitation to visit the headquarters of the committee at No. 25 New Montgomery street, Palace-Grand Hotels. At these headquarters is maintained a reliable information bureau regarding our city and State.

It is the desire of the committee to enlist the co-operation of all residents of the city, and to that end it is hoped the merchants generally will call at headquarters and see for themselves the work that is being done by the committee.

It is also hoped that business and other residents of the city will send or bring their friends who visit the city to the committee's rooms, which are conveniently located as a radiating center.

Diploma of Honor

At the International Exhibition for Photography and Allied Industries, Amsterdam, August and September, 1902, the well-known Agfa photographic preparations of the Actien-Gesellschaft fur Anilin-Fabrikation, Berlin S. O. 36, Agfa dry plates, Agfa flat films, Agfa rollable films, Agfa developers and Agfa specialties received the Diploma of Honor, being the highest distinction awarded.

New Exchange Paper

The first issue of *The Photographic Exchange*, under the supervision of Mr. Fayette J. Clute, has just been issued. This publication takes the place and serial number of the

World-Wide Photo-Exchange Bulletin, and will continue to be the official organ of the International Photographic Exchange and the World-Wide Photo-Exchange.

"Papa" Cramer's Experiments

Of all the people calculated to give good, sound advice on development it is the plate manufacturer. At the Buffalo Convention "Papa" Cramer was loud in his praise of ortol, having made numberless experiments with it during the year. Here is the formula for a single solution developer highly recommended by him:

BY WEIGHT

Water	60 ounces
Ortol	300 grains
Bromide of potassium....	30 grains
Sulphite of soda.....	
.....	3 oz. dry or 6 oz. crystals
Carbonate of soda.....	
.....	2 oz. dry or 5 oz. crystals

OR BY HYDROMETER

Water	30 ounces
Ortol	300 grains
Bromide of potassium....	30 grains
Sulphite soda solution	
(test 80)	16 ounces
Carbonate soda solution	
(test 60)	16 ounces

For use mix: 1 part of this stock solution; water, 1 to 2 parts for winter use, or 2 to 4 parts for summer use, according to density desired.

The ortol developer can be used repeatedly and keeps well, particularly if the stock solution is put up in small bottles quite full and tightly corked to exclude air. Dilute with water when wanted for use.

Ortol developer does not stain either the fingers or the negatives and the color of the negative comes near to that obtained with pyro, so that it seems to combine the advantages of pyro with better keeping qualities.

Always carry the development far enough to insure good printing quality.

This formula with many others equally as valuable are to be found in "Cramer's Manual on Negative Making," a new booklet just issued by the G. Cramer Dry Plate Company, St. Louis, for free distribution. Every photographer should be in possession of a copy for we have never seen so much valuable information in such compact form and to be had at such a small price, a postal card.



IN A MOKI WINDOW
"PHOTOGRAPHING INDIAN BABIES"
by GEORGE WHARTON JAMES

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. VI

SAN FRANCISCO, CALIFORNIA, DECEMBER, 1902

No. 2

Picture Stories With a Camera

By O. V. LANGE

With one of the most simple kodaks and a world of patience and child lore, Mr. George Hansen of Berkeley, has evolved a series of picture stories that have given thousands pleasure and endeared himself to those who love children and their innocent play. As a result of an accident several years ago, Mr. Hansen was crippled for life and was compelled to forsake his profession as a landscape architect. In his profession Mr. Hansen always entertained the most peculiar views and has frequently declined commissions rather than carry out ideas contrary to his standard. The desire of many of his prospective clients to remodel Nature rather than adapt ornament to its beauties on frequent occasions, caused him to abandon lucrative commissions.

This worship of Nature has been carried out in the picture stories which have not only furnished him with amusement, but have given to the world the possibilities of the camera as a source of joy and pleasure even to those who, through misfortune, are unable to join in the travels of more fortunate photographers.

Seated in his easy chair in front of his picturesque home near the Berkeley foothills, the picture-author, with his little son playing before him, composes his picture. No accessories, no frills or preparations are provided, the child furnishing its own poses, while the father sits and watches the youngster play. When the youngster least expects it the camera does its work, not once but a dozen times. The unconscious child model has served scores of times and never once does self-consciousness exhibit itself in the resulting pictures. The father has carried out his ideas in landscape architecture even to the picture of his child. Nature has been photographed as it is.

The picture stories were evolved as a sequel to individual pictures made while the little boy could not even walk. As the little fellow grew older the consecutive pictures followed. Many failures were made as a natural consequence, but the successful stories come more frequent now as the youngster begins to handle himself better.

The quickest exposures, where a story was recorded, was when the child for the first time played with a watch, while sitting on the lap of his uncle. Nine pictures were taken on that occasion in less than three minutes. The longest period taken in the make-up of a story was "Classic Vespers," when about twenty minutes were consumed. On that evening the child was in the yard practicing successfully for the first time walking on rough ground. It happened to be a beautiful evening, and

every time the child came down hill, having walked a distance of about forty feet, he stopped in front of the father, who was lying with his camera on the ground. As the child stood in front of him, pointing toward the beautiful changes in the sky and the sinking sun, the father exposed a film. The child again went up the hill to return in due time to tell the father more about the clouds. The photographs show plainly the gradually dimming light as the sun sank lower, and in the last picture, where he bows his "good-night," the wee form and features of the child are hardly distinguishable.

Between these two extremes of three minutes and twenty minutes a library of



MR. GEORGE HANSEN AND THE LITTLE TOT THAT SERVES AS HIS MODEL

more than one hundred and fifty stories, giving, undoubtedly, the most perfect photographic record of a child a trifle more than two years old ever taken, have been evolved.

Twelve stories in book form are now being published by Elder & Shepard, of San Francisco.

The most remarkable point in the production of these pictures is the fact that Mr. Hansen never once owned or handled a camera until he became interested in photographing his child.

T H E
PLAYMATES

A simple story
in six pictures
by GEORGE HANSEN



MY DEAR LITTLE FRIEND



COME LISTEN TO ME



LET'S HASTEN TO SPEND



THE BEAUTIFUL DAY



WITH LOVE AND CARESS



AND LAUGHTER AND PLAY

Knowledge is Economy

By H. FLORENCE OLIVER

We are all the time thinking and talking of "less expense" in our Photography. Why, I cannot understand, unless this bargain-counter fever is born with us. I know it is bred with us, else why the words "economy" and "bargains." Do we read anywhere of the Creator of the Universe trying to economize? Do we find Mother Nature hunting for "bargains?" Then why we, as we are the "salt of the earth"—the "lords of creation?" This is no play of words. Just ask yourself these questions and think about it.

A mistake in our photographic work causes us to become aware that we have nothing good to show for the money expended. That is, our idea of "good" in Photography means a perfect piece of work. So, a mistake made does not mean a perfect piece of work.

But, what is behind the good or poor work? What am I! and what are you? A piece of intelligence—or a blank? Intelligence, of course. How much? Well, not enough to prevent that mistake. True, then what do you need to prevent more mistakes of a like nature? The knowing how to do the thing to prevent doing it wrong again. That's intelligence? Yes.

So you see if you have eyes to see, that it is knowledge and even more which we need to save expense.

We will soon learn that cheap paper gives a poor print; that cheap plates give a poorer negative; that cheap chemicals ruin the other materials, although they may be of the best make. We soon find out that in trying to save by buying as few tools to work with as possible, we are taking it out of our time and ourselves as well as getting poor results in the pictures.

Sometime we will learn that the more we pinch our surroundings the more we pinch ourselves, so that our happiness, our very life becomes pinched. It cannot help but show in our pictures, if we are at all times studying to save expenses, for do we not try to express ourselves in our work? And if we are thinking small pinched thoughts our pictures will be mean to look at. Can we see the highest type of beauty while we are trying to cut down expenses? If we try to spend less money on Photography, do we give ourselves much opportunity to experiment and thus find out the whys and wherefores?

Fact is, we want something for almost nothing. Think of trying to express such an ideal in a picture! For what did we take up the study of Photography, anyhow? To try to get pleasure out of it, you say. Is there any *real* pleasure in saving a penny? Besides, for what are we saving all of the filthy pennies?

Some of us are afraid to take a step ahead, for fear we cannot pay the fiddler. Very well, stand still the remainder of your life; but you will soon lose sight of the man who is willing to walk. He is away ahead with happiness, life, success; while about you are—pennies.

But, you say, suppose a man wants all the good things, but has not the ready money to pay for them. Good! Make up your mind just what you do want and then try every way in your power to get that thing. Make it yourself, or if not, get trusted for it, or work extra somewhere, sometime, to earn the money to buy it. In

fact, any honest way is good enough that will bring it to you. If you are *determined* to have it, you will find the way to its possession. I never knew it to fail.

It is determination that brings a thing, not money. Money alone does nothing. We think that we are saving on our bill if we do not spend so much money for magazines. We *are* saving—pennies; but how much knowledge are we acquiring? As long as a magazine is ahead of me in photographic knowledge, just so long am I saving money by subscribing for that magazine. The paper is telling me how to do more work and better work. It will appear that I am spending more money at first, but it will also appear that my added knowledge is saving me an equal amount of money by preventing those mistakes.

What if I don't save money! Will money bring knowledge, or is it knowledge that brings money? Did a fool (pure, unadulterated) ever obtain or hold much money? Once more. Did you ever observe that the man who saves, has to save, and at last the habit of saving so fastens itself upon him that he saves when he has already at hand a plenty of those precious pennies? Did you ever notice the other man, who spends as he goes along? Doesn't he enjoy life and isn't he learning more than the other fellow?

Yet again. Tell me which man in business pans out the biggest portion of success. The man who starts in with a good stock of goods, and as fast as the money comes in to him, spends it again on better goods of a more up-to-date pattern, or the man who buys any old stock of goods that he can buy *cheaply*, and as fast as the money comes in to *him* hoards it away? The former, of course. That just illustrates the photographer's career. One man goes in for economy with his camera work as a side issue. The camera is his companion so long as it is moderately cheap; but it goes to the wall when it ceases to be inexpensive. That man is soon a back number. The other man goes into his camera work for knowledge, although he may at first call it pleasure. It is just the same. This man keeps track of every new desire, idea, bit of knowledge, and spends his money to improve. He adds more and better goods to the old supply. Consequently he has more money coming in all the time, as his is the better business, therefore the more attractive.

Take your choice—but what about the result?

Hypo—An Experiment and a Moral

By F. C. L., in Photographic News

It does not seem to be sufficiently generally known that when "hypo" is dissolved in water the temperature of the water is lowered. Furthermore, of those who know this fact in a general sort of way, there are not a few who fail to recognize its practical bearing on our work, especially at the colder times of the year.

In order that we should be able to give the reader something rather more definite than such general statements as "lowers the temperature," we made the following experiment. At the outset one may say that very great accuracy was not aimed at, but the quantities and observation are sufficiently near for all ordinary purposes.

(1) The temperature of the room was between 62 and 63 degrees F.

(2) Four ounces of hypo crystals which had been standing in the room for some days gave a reading of 62° F. These crystals were put in a canvas bag or cone in the mouth of a glass jug.

(3) Water from the tap at temperature 50° F. was put in the jug to the forty-ounce mark.

(4) A thermometer inserted at 50° F. rapidly fell to 44°, then 43°, and by the time all the hypo was dissolved, showed a reading of 42° F.

(5) At the end of rather more than an hour the temperature of the solution had risen again to 50° F. Observe that the above strength, say 10 per cent, is that generally used for fixing prints. But in this case we can see little or nothing as to the progress of fixing.

Next in a similar manner we dissolved two ounces of hypo to make ten ounces, *i. e.*, a 20 per cent solution. This is our usual plate-fixing strength.

(6) Temperature of air and tap water as before. Temperature of 20 per cent hypo solution as the last few crystals were dissolving was just below 40° F., but in a few minutes the temperature rose to 41-42°. Meanwhile an unexposed plate was cut in half (A and B), and put into tap water at 50° F.

(7) A was put in 20 per cent hypo at 42° F., and gently rocked. In just under four minutes the opaque white part was dissolved, and the plate had only a *very* faint opalescence.

(8) B was put in 20 per cent hypo at 63-64° F., and in just over two minutes the opaque white salts of silver were apparently all gone.

(9) Next a plate of the same brand was exposed (in strips) to gas light, then developed in pyro soda at 50° F., cut in half (C and D), and washed for three minutes under the tap (50° F.).

C was put in 20 per cent hypo which, by this time had risen to 44° F., and apparently all the undeveloped haloids were dissolved again in about four minutes.

(10) D was put in 20 per cent hypo at 63-64° F., and in like manner apparently all the undeveloped silver salts were dissolved in rather more than two minutes. The dishes being gently rocked side by side all the time.

It should be added that the plates used were very poorly coated—not very much more opaque than well-coated lantern plates.

The time for apparent fixing probably strikes the reader as very short, but it must be remembered that (*a*) the dishes were rocked all the time, (*b*) the plates were thinly coated, (*c*) the solutions had not previously been used for fixing.

The practical moral of these observations is not far to seek. Roughly put, it comes to this, that when dissolving hypo in water for a 10 or 20 per cent solution, with water at about 50° F. to start with, we shall have a fall of about 10° F.

When fixing plates if we use a freshly made fixing bath we must allow about double as long as we should if using a bath which has been prepared a few hours (or days) beforehand and been kept in a room at ordinary comfortable temperatures.

By analogy we may apply the same practical inference to the fixing of papers.



SILHOUETTE
by ADELAIDE HANSCOM



PORTRAIT
by OSCAR MAURER

Photographing Indian Babies

By GEORGE WHARTON JAMES

With copyrighted photographs by the author

What artist is there, photographic or otherwise, amateur or professional, who has not longed for new fields to explore, new worlds to conquer? In the Indian baby I find the new field, the new world. It is a well-known fact that not until you begin to study a subject do you know how interesting it is. We are never attracted to things where our ignorance surpasses our knowledge or curiosity, and the Indian baby is no exception to this general rule. You have no idea how fascinating these little brown "field Cupids" become as you study their individualities, their idiosyncrasies, as well as all the social and other circumstances that surround them.

Most men, and women, too, for that matter, are half blind to all the good things that surround them. I had been making photographs of Indians for years, with now and then a baby picture, before I began to realize what opportunities I had been missing. And now, like all other hunters, I prize most the game I find hardest to get. For as the years roll on the Indian becomes more and more "civilized," and now he "works" the photographer for all he is worth, or all he thinks he is worth, and it costs a small fortune to accomplish much with a camera where one is a stranger.

My photographic outfit is as follows: For my $6\frac{1}{2} \times 8\frac{1}{2}$ work I have a box made by G. Gennert of New York, with two Collinear lenses, rectilinear and wide-angle. I also carry a Gennert stereoscopic box, with two pairs of matched lenses, one made by Dalméyer, the other by Voigtlaender.

All my photographs are made with one or other of these boxes and lenses. Conditions otherwise are as diverse as can be. Generally speaking, climatic and actinic conditions are perfect in Arizona and New Mexico for instantaneous out-door work. But it is a hard country on cameras. Miles and miles have to be made over rough roads, where fine sand sifts into everything, so that shutters and catches, etc., do not work, and one often has to fall back upon the old-time cap. Many of my exposures are cap exposures perforce.

One of the first baby pictures I ever made among the Hopi in Northern Arizona, is the first one shown. It was Snake Dance time and the day before the great evening event. Late in the afternoon, as G. L. Rose, the Pasadena photographer, and I were walking down one of the streets in Oraibi, we met this boy carrying his baby sister in his arms. The posture, the chubby good-natured youngster, the long shadow, at once arrested my attention. I persuaded the lad to stand. Rose and I both set up our cameras, focused, shot and lo! the deed was done. Where else in all the world could such a funny picture be made. Look at the "catch-as-catch-can" fashion of the boy baby carrier. See the arms of the baby, and the way her little legs are tossed hither and thither, and the peculiar wiggle of the toes, as shown clearly by the shadow of the turned-up foot. Then look at the boy's lips. Even though his eyes cannot be seen, the lips have such a distinctly ugly pout that you can feel the burning indignation and anger of the eyes (at being thus held up) shooting through the matted hair which falls over his forehead. His shirt might have been a little longer, or shorter, either would have done, and the shadow just as it is. Altogether it is a

picture to be grateful for; for it gives fun and enjoyment, and what more does any artist, amateur or professional, want? For, of course, neither ever craves or needs more filthy lucre than he already possesses.

The next picture is in marked contrast to the first in a most important particular. The first baby neither knew nor cared a rap about being pictured. Baby in



"ONE OF THE FIRST BABY PICTURES I EVER MADE"

the next one decidedly objects, but sister is willing, so baby must perforce submit. As I focused I felt it was "a mean, dirty shame" to hold the poor little girlie that way while the hot sun poured down into her eyes, but the picture had to be "took," so we had to steel our hearts a few moments. But what a study in expression. The baby is loosely tied to the cradle with its board back and head rest made from an old



* * "A SPECIMEN OF PERPETUAL MOTION"

piece of bed quilt, yet no one of my readers can see, as can the one who made the picture, the wriggling and writhing of the body, the facial contortions, the "joggling" of the head, that made of that little piece of animate matter a specimen of perpetual motion. But the baby's sister saw it all, and with an intelligence born of experience in keeping still herself before the camera, she came to my rescue, and, taking the child's head, held it fast. I happened to be quite ready to make the exposure and shot like a flash, turned over the holder, and within a few seconds secured the second picture, which shows the wise girl looking up at me as much as to say: "Now you can get her; go ahead!" And go ahead I did. The pucker of the baby's lips, the half smile on the sister's face, the earnest look of the mother all compelled another shot. Then mercy seasoned hunting instinct and shame helped compel me to quit and let the poor baby seek shade and nourishment after its cruel experiences before the camera.

The next picture was made by Mr. Rose. The good nature of both mother and baby, the chubby face, arms and legs of the infant creased with good living and healthful outdoor exposure to air and sun, make it an interesting picture. Just across the street—for the Hopi Indians have streets, as all readers of *CAMERA CRAFT* are well aware—was an almost blank wall. But down to about three feet above the level of the street was a small rude peep door, and sitting or standing, I could not tell which, was a baby very much interested in all going on where I was. In a moment the

possibilities of the scene arrested me, but I knew that if the mother happened to be behind the baby, holding it, she, from the darkness of the room could see my every movement. The moment the camera faced her darling child there would be no work for the photographer. So while I changed lenses, I sent a messenger of peace with an offering to the mother and the request that she please "Si-witch-i-mi" (one of my Hopi names, given on account of my black beard) by allowing him to make a "sun-picture" of baby dear. My request was graciously complied with, for the mother sat still and did not try either to remove the child or to peek and see what was going on. The exposure naturally had to have time, and to make sure I exposed a second plate, which is equally good as this, though the position and expression are different.

They who deem the Indian cruel and blood-thirsty should see these Indians with their children. Their affection is deep and powerful, and though, from our civilized standpoint, we deem the Indian mothers neglectful of the child's best interests as far as food and cleanliness are concerned, no one can deny their sweet spirit and kind heartedness, and the influence this has upon the children. Open disobedience is seldom known and the rudeness of the smart American child, his impertinence and his selfishness are as foreign to the Indian child as the manners of a Patagonian would be to a Gladstone. I could write a "heart-to-heart talk" on this subject that would grace the pages of the Philistine, for I feel it very keenly that our so-called



"CREASED WITH GOOD LIVING"



AN INSTITUTION NEVER TO BE DISPENSED WITH

higher civilization has robbed so many of our youth of the respect due to parents, to strangers and the aged that our non-civilized Indian children invariably show.

In the last picture we have a common spectacle. The Hopi burro is an "institution" never to be dispensed with. He is a friend, companion and very present help in time of trouble. A load of wood, a dead horse dismembered and generally dismantled, a couple of heavy sacks of corn or half a dozen children, are all alike to him. He carries them all with steady impartiality, and, more important still, steady gait. There is no friskiness, no kicking up of the heels. The burro is well trained, gentle, obedient and domestic, a list of virtues hard to find in civilized kitchen domestics in our large (and small) cities. But he is a great corn thief, as his cut ears often testify, the slicing off of a part of his ear constituting the lasting sign of his kleptomania.

Intention in Photography

When we come to analyze the principal merits of any acceptedly excellent pictorial photograph, to sit in calm judgment, as it were, on all its superlative and minor beauties, what is it, after all, that finally contents and satisfies our artistic perception, and makes us admit that the picture's reputation is well deserved? In nine cases out of ten, probably, we shall come to the conclusion that it is the evident presence of what, for want of any better name, is called intention, the clear existence of a motive, and the more or less successful expression thereof. It is the possession or absence of this abstract good quality which makes all the difference between what may be a merely admirable technical result, and the work of art which demands and keeps our appreciative attention.—*British Journal of Photography*.

Carbon Printing

By W. J. BROOKE

Reprinted from the English Amateur Photographer

One of the oldest and most beautiful of photographic printing processes, and yet, considering its age, one of the least popular, is the old carbon or autotype process. Invented in the days when Photography was still in its infancy, and from the first proven to be capable of most exquisite and permanent results, it has nevertheless hung fire for some thirty years, and indeed has only within the last five or six years been to any extent employed by the amateur worker.

That such has been the case, is due in all probability to the invisibleness of the imprinted image prior to development, and also to the bad keeping qualities of the sensitized tissue.

Sunning down, printing in of clouds, retardation of the printing of portions of the image; the watching of which is deemed so necessary by the photographic artist, and so easy of accomplishment on the printing-out and platinotype papers, that the inability to do likewise with autotype has ousted it from the field to a great extent.

If necessary, however, all this can be done on a second negative made from a transparency in which the dodging has been performed by sunning down the portions required to be darkened, while the developer is still on the transparency plate, the light from an oil lamp being sufficient. Parts to be lightened can be reduced with any suitable reducer used locally, and the sky, if required, made on a separate plate. From this combined and faked transparency a negative may be made through the



PORTRAIT OF F. HOLLAND DAY

By Alvin Langdon Coburn

camera, same size or enlarged, and used for the direct printing of finished carbon proofs. Again a print on printing-out paper, printed and faked as required, may be copied, and again the resulting negative used.

The following remarks on the manipulation of autotype printing gleaned from the writer's own experience of some years' acquaintance with the process may give some hints to the beginner.

The tissue can be procured either insensitive or ready sensitized, and in any color that may be desired. Ready sensitized tissue is a great convenience, but as it tends to become insoluble after a little time, there may be waste in procuring it this way unless it is all used up within a fortnight, and with the occasional worker this is not always feasible.

The tissue is sensitized by immersion in a 2 per cent solution of potash bichromate; as this salt is generally acid when procured, the solution must be neutralized with ammonia, by taking half of it and adding ammonia till the orange color changes to lemon yellow. The two halves are then mixed, and the resulting solution is of a pale sherry color, and just about neutral. Acidity in the sensitizing solution must be avoided, as it tends to render the tissue prematurely insoluble. On the other hand, it may be so strongly alkaline as to distinctly smell of ammonia without any appreciable ill effect.

The time of immersion in this solution is important, as the rapidity of the resulting tissue is affected thereby to a marked degree. Three minutes in the above will give a tissue of about one and a half times the rapidity of printing-out paper. Longer immersion makes the tissue more rapid, but renders it liable to become insoluble, whilst a shorter time will make it less rapid, with a tendency to patchiness owing to uneven absorption of the sensitizing fluid.

The strength of the bath, too, is generally supposed to affect the scale of gradation of the ensuing print, that is to say that with a 4 per cent solution we get a flatter



DECORATIVE BIT

By Oscar Maurer

image, and with a 1 per cent solution a more vigorous image, than with the normal 2 per cent strength. Others claim that the only effect gained by increasing the strength is increase of rapidity; which by the consequent over-exposure of the print, caused by the assumption that the tissue was of normal rapidity, gives a flatter image. From careful examination of the faint tint always observed on the portion of the print covered by the safe edge, I have been led to believe that the difference in prints from tissues sensitized in baths of varying strengths is due in all cases to a state of surface insolubility of the gelatine film. There was always less "stain" in the safe-edge border of a print sensitized in a weak bath than was the case with one done in a strong bath.

Pieces of tissue sensitized in baths of strengths varying as 1 per cent, 2 per cent, 3 per cent and 4 per cent of the chromate salt, for three minutes, were respectively treated in identically the same way, and developed without previous exposure on to paper of the same surface texture, in water of the same temperature. The stain was apparent in all, and to a degree relative in each to the strength of the sensitizing solution used.

It will be thus seen that this stain when present to a greater extent than usual, will readily give the appearance of greater flatness to a print that has been sensitized in a strong bath.

The same argument, I fancy, also holds good in the case of prints made on tissue that has been kept several days subsequent to sensitizing, the theory of greater sensitiveness being in reality one of greater surface insolubility, since the spontaneous insolubility of the bichromated gelatine seems to proceed from the surface downwards.

That this is really the case seems to be shown by the sensitized tissue, preserved from the action of moist air, in a calcium chloride drying tube (and thereby protected from spontaneous insolubility), being nearly, if not quite, of the same rapidity after the lapse of a month as it was when first prepared. The calcium chloride, in thoroughly drying the air of the tin in which the tissue was stored, prevented the formation of this surface insolubility, which if present would have given the appearance of flatness, generally associated with over-exposure.

The tissue having been sensitized, is taken out of the bath and squeegeed on to glass or ferrotype plate to remove the surplus solution. If this be not done the tissue is liable to give patchy and uneven prints, due to some portions of the gelatine coating absorbing more of the solution than others.

Drying must be conducted in non-actinic light, and in as pure an atmosphere as possible, an impure atmosphere highly charged with vitiated products of combustion of gas or oil being highly conducive to insolubility of the gelatine. The tissue will also become insoluble if drying be too slow, five or six hours being a normal time.

A useful drying box may be made of wood, say 18 to 24 inches every way, and one-half of an inch thick. All four sides should be hinged on to the bottom, small hooks and eyes keeping them fastened to the top piece when closed. Small strips of wood one inch square in section, fixed inside the corners, are nailed to the top and bottom to keep these in position when sides are down. A piece of stove pipe two and a half to three inches diameter runs through the box from top to bottom, and a small cowl is fixed on to the top. The box is raised nine inches from the floor by four



GOLD MEDAL IN PRIZE WINNERS' CLASS
KANSAS PHOTOGRAPHIC ASSOCIATION
by P. H. BAUER

small legs, and a small hand lamp placed outside the box under the stove pipe, will gradually raise the temperature of the box, without any impure vapors getting therein. The tissues are pinned on to the four sides of the box (ventilating holes having been bored into the top and bottom), which sides are then fastened up; they will be found to be dry in three or four hours, free from dust or light.

An alternative method is to squeegee the tissue from the sensitizing bath on to a sheet of ferrotype, when it may be dried in an ordinary room in daylight, providing that it be placed away from the direct action of light, in some corner. The paper backing of the tissue will effectively prevent any light gaining access to the sensitive gelatine. (Do not be tempted to hasten the drying by the aid of mineralized methylated spirit.)

If not immediately required the tissue may be preserved in a box under pressure. It will then remain good for about a fortnight; but if required to be kept a longer period than this, a calcium tube such as is used for storing platinotype paper in, must be used. Tissue kept thus is deprived of all its moisture, and the gelatine coating is rendered very horny and brittle, and must be placed in a cool place such as a drawer, for a few hours to become a little pliable before putting in the printing frame. After printing, which is gauged by means of an actinometer (or another negative of similar density behind which a piece of printing-out paper is printed till the image is "just enough"), the tissue can be developed at once in the usual way recommended in all instructions issued by the makers, or it may be preserved in a calcium tube for several days before developing. If not kept absolutely dry, the image will go on developing in strength, due to the peculiar property of bichromated gelatine of continuing to print, although removed from the actuating effect of light. This is the more marked, the more moisture there may be in the tissue.

If after squeegeeing the printed tissue on to the final support, it be allowed to remain too long (say an hour) before developing, great difficulty may be found in causing the backing to strip when in the developing water, owing to the gelatine having become more or less insoluble right through. This may be prevented, by placing the squeegeed tissue in cold water (after having been under slight pressure for about fifteen minutes) until one is ready to develop it. This seems to point to the fact that both moisture *and* air together are the cause of the gelatine becoming insoluble when away from light. Either alone will not necessarily cause this, but both together most assuredly will. Before concluding, it may be as well to point out that tissues of varying color need different exposures to get the same apparent visual effect. This is not due to any inherent difference in the rapidities of the various colored tissues, but from the fact that different colors have different intensities and covering power, *e. g.*, a grain of lamp black spread over a square inch of paper will yield a greater intensity than a similar amount of red chalk would do, and thus we have to give a longer exposure to tissue pigmented with the latter than with carbon, to obtain the greater necessary deposit.

The foregoing remarks are not written to prove how difficult autotype printing is, but simply to point out to any innocent beginner the various pitfalls which lie in his path, the avoidance of which renders the process none the more difficult.

Pinhole Photography

Different Sized Pinholes—Their Properties—Angle of View

By DR. H. D'ARCY POWER

IN THREE PAPERS—THIRD PAPER

Before proceeding to treat of the properties of various sized pinholes it were perhaps better to accurately describe the apparatus I use and which meets both the theoretical and practical requirements of serious work. For reasons to be shown later it is necessary to have several pinholes of different sizes, so arranged that they can be rapidly alternated. These holes must bear a definite ratio to one another, and be of fixed diameter, otherwise exposure time cannot be calculated. They must be perfectly round, free from ragged edges and as thin at the edge as it is possible to produce them. I provide for these requirements in the following manner: A piece of metal (A) is turned to screw into the lens phlange in place of the lens; it contains a central perforation 1 c. m. in diameter. A second piece of metal (B), bearing the pinholes, is fastened on to this in such a way that when revolved each pinhole comes in turn over the central perforation. The pinholes themselves are not bored directly in this second plate, but are made in separate pieces of thin beaten copper and soldered behind openings cut in the plate (see diagram). My plate bears six holes, whose diameters are respectively, 5 m. m., 1 m. m. and 0.75, 0.5, 0.375 and 0.25 of a m. m. The first is only used to find the picture on the ground glass (see September CAMERA CRAFT) the rest are of such a diameter that each passes double the light of the last. I hope and expect to see these diameters accepted as universal standards for these reasons: The metrical system is the standard of science and the general standard of the future. The largest and smallest holes, 1 m. m. and 0.25 m. m., mark the limits of useful size; above 1 m. m. images are diffuse; below 0.25 m. m. exposure time is excessive and it is said that diffraction disturbs definition. Lastly these numbers are near enough to the old standards to be roughly interchangeable with them as follows:

1	m. m.=1-25	inch=pinhole No.	2=	multiplying factor 1
0.75	m. m.=1-38	inch=pinhole No.	8=	multiplying factor 2
0.5	m. m.=1-50	inch=pinhole No.	10=	multiplying factor 3
0.375	m. m.=1-75	inch=pinhole No.	12=	multiplying factor 4
0.25	m. m.=1-100	inch=pinhole No.	18=	multiplying factor 5

The multiplying factor is the number which multiplied by the bellows length gives the f diaphragm value to be used in ascertaining the exposure time with a light meter. I advocate the naming of the pinholes by these multiplying factors. We would then always have ready the factors to solve any lighting problem. For example, wanted exposure time for a landscape with No. 4 pinhole (0.375 m. m.) at eight inches bellows extension. Answer— $4 \times 8 = f/32$. If the plate speed were 90 and the lighting 30 then the answer on the Wynne meter would be for a lens four seconds, which for a pinhole we read multiplied by 60 or four minutes. If we do not possess a light meter we simply form a judgment of what the exposure ought to be if a lens stopped at $f/32$ were used, and translate the answer from seconds into minutes. As

shown by the diagram, my pinholes are marked by these multiplying numbers on the plate. It will be seen that the little piece of apparatus I have described is beyond the mechanical skill or facilities of most photographers, but can be made by any good machinist at small cost. Mine was made by Mr. Kuster, of 220 Sutter street, San Francisco, who will make them to the above standard and send them to any part of the world. While you can take pinhole pictures with tags, just as you can obtain lens photographs with dollar cameras, yet serious work demands accurate apparatus. Therefore, if my readers intend to make pictures let them provide themselves with the above, or better pinholes (if such there be) and a camera with at least 24 inches draw, remembering that the best work is done on the largest plates.

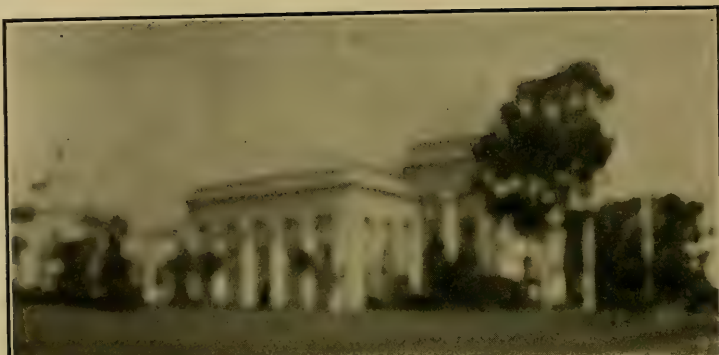
To come now to the main purpose of this particular paper, namely, what are the



PINHOLE PLATE TO SCREW INTO LENS FLANGE

properties of the above described pinholes and under what conditions should they be used. It has been stated that there is on theoretical grounds a proper plate distance for the different sizes and that the angle of view alters with the size of the hole. The latter statement is untrue in practice, as I will presently demonstrate. The first may be true, but is of no importance in pictorial work with which I am solely concerned at present.

We have five pinholes whose diameter varies from 1 to 0.25 m. m. (1-25 to 1-1000 of an inch). In what do the pictures made by them differ and why is one more desirable than the other and when? Let us first remember that a photographic image is not a continuous surface, but is made of millions of round spots placed side by side. If these dots are very small (1-100 of an inch or less) we are unconscious of their existence and the resulting picture will look as clear as the real object does to our eyes when critically examined. If these dots are larger than 1-100 of an inch



TAKEN
WITH
VIEW
FINDER



WITH
NO. 1



WITH
NO. 2



WITH
NO. 4



TAKEN WITH NO. 5

NOTE—In all these reproductions, much of the finest detail is lost in the half-tone process

the picture will lose in detail proportionately to their size. In the making of lens pictures it is usually demanded that the size of the dots (spoken of as circles of confusion) shall not exceed 1-100 of an inch. In a lens the size of the dots is determined by the accuracy of the focus and the construction of the lens. In a pinhole picture the size of the dots is equal to the size of the pinhole. Any No. 5 pinhole 1-100 of an inch in diameter, therefore, yields an image made up of dots of this size, and is consequently as sharp as that required of an ordinary lens. No. 1, 1-25 of an inch is incapable of yielding fine detail. Let us compare them in practice. Say that we wished the pictures of an oak, an elm, a pine and a poplar. No. 5 pinhole would give pictures of them which could be used by a botanist to obtain information concerning their minute anatomy, but No. 1 would yield generalized pictures, correct in their distribution of light and shade and form so that an observer would have not a moment's doubt as to which tree was depicted; yet he would look in vain for details of leaf or bark. The trees would appear just as an artist would sketch them, and yet they would be devoid of that unpleasant out-of-focus effect that is so annoying in the work of some so-called "fuzzywuzzists." Now, it is a fundamental principle in the graphic arts that the objective end of all delineation is an effect; an effect on the imagination or emotion of the observer; everything that does not aid in obtaining that effect is a hindrance and distraction. If you walk through an autumn woodland and would have others feel the beauty of sun-lit foliage softened by the morning mist, you must depict it as it appeared to you and in no other way. What you felt was not produced by noting the venation of a leaf, for if you had examined the leaf you would have ceased to look at the landscape. Consequently your photographic method must be such as to suppress the leaf as a leaf while retaining it as a part of the beauty that you were stirred to perpetuate. And in the case of pinhole

work you would succeed with No. 1 and get altogether too much with No. 5. This point is well illustrated by my picture entitled "Through Autumn Woods," which could gain nothing by greater rendering of detail. This was taken with the No. 1 pinhole (1 m. m.) at eight inches draw, on a 11 x 14 plate, the morning being misty and lighting uncertain; exposure calculated as described was 45 seconds.

But pictorial effects do not always require suppression of detail; on the contrary, they may demand just the oppo-



TAKEN WITH NO. 1—EXPOSURE 3 SECONDS

site. The majesty of a gothic cathedral, when we stand beneath its groined nave, is not adequately rendered by a mere suggestion of its carving of gargoyles and sculptured font. The very spirit of that mediæval past is enshrined in its sculptures, and we must reproduce them or lose the effect that stirred us. With such a subject No. 5 (0.25 m. m.) will give us what we want where No. 1 would fail. The force of this contention will be better appreciated by examining the five views of the Art Museum, Golden Gate



TAKEN WITH NO. 4—EXPOSURE 48 SECONDS

Park, which were taken one after the other by pinholes 1, 2, 4 and 5. No. 0 was taken by the finder (5 m. m.) and is inserted to show the use of that pinhole.

It will be seen that a diffusion of focus that is very charming in "Autumn Woods," is unpleasant when applied to a building whose interest largely lies in the bass relief covering its walls. Many subjects, perhaps most, occupy a position midway between the cases I have described, and will be better rendered by No. 2, 3 or 4. This must be a matter of judgment and experience. I can only indicate the principle, not deduce a rule. Furthermore, it is to be remembered that the choice of the pinhole will be affected by the size of the picture. A diffusion of focus that would be very unpleasant in a 4 x 5 picture might give no such effect on a 11 x 14, partly because the observer would naturally examine the latter from a greater distance and partly because a large picture is usually taken with a longer extension of bellows. Now, while I have assumed that a 1-100 of an inch pinhole produces a circle of confusion of 1-100 of an inch, in reality the area is larger than this on account of reflection from the sides of the hole, but the error thus introduced is greatest when the pinhole and plate are nearest together and rapidly diminishes with the extension of the bellows.

So far I have spoken of the size of pinholes solely with reference to sharpness or diffusion, but they must also be considered from the point of view of exposure time. Take, for example, the view of the Art Museum, where No. 1 received an exposure of two seconds, No. 4 received 45 seconds and No. 5, 75 seconds, though the resulting negatives are alike in density. Had it been necessary to take "Autumn Woods" with No. 5 instead of No. 1, I should have had to wait nearly half an hour. This would be immaterial if it were only a matter of time, but there is movement to consider, both of objects and of shadows, so that it may happen that when there is much movement the larger hole may give the sharper picture owing to the lessened blowing. This is illustrated by two pictures taken from the edge of the bay, one was with No. 1



"AUTUMN WOODS"

three seconds exposure, the second No. 4, 45 seconds exposure. The shipping on the bay is best given by No. 1, owing to the little movement that took place in three seconds. Speaking of seascapes, it is quite possible to use the pinhole for snap shots over water. On a bright day, with a fast plate a No. 1 pinhole at five inches would give a picture in one-quarter of a second. We may, therefore, sum up this part of our study by saying that, providing the nature of the subject permits of it, the larger the pinhole the better will be the picture.

Now let me conclude with a few words on the subject of angle of view. I read in a book on pinhole photography that the size of the pinhole determined the angle of view. The only comment necessary is that the four pictures of the Art Museum here given were taken with pinholes ranging from the smallest to the largest without in any way changing the camera. Yet they include practically the same view.

One of the greatest advantages of the pinhole is the almost unlimited range of view angle that it offers the worker. To take advantage of this the camera must permit of considerable extension. I constantly work at a distance of 24 inches from the plate, and for certain subjects I see no reason why this should not be considerably extended. These long extensions mean long exposures, it is therefore necessary to see that the camera is free from vibration and the tripod legs firmly placed or in the course of ten to twenty minutes it may well happen that the whole camera will have shifted.

Troubles of the Dry Plate Maker

By ROBERT BENECKE

Superintendent G. Cramer Dry Plate Company

In this short article I shall confine myself solely to the care and troubles connected with the manufacture of dry plates, and shall have very little to say of the making of the emulsion. This subject has been so fully and exhaustively treated by such eminent scientists as Dr. Eder, Dr. Vogel, Messrs. David and Scolik, Captain Abney and others, that I can refer those who are in search of more information to their excellent publications on emulsion making. At the same time I would like to say here that all the books in the world will not make a man a dry-plate maker any more than the purchasing of a fiddle, a bow and an instructor will make him a Kubelik.

Of the many men who have attempted to make dry plates, very few have been successful and, no doubt, there were good reasons for it. A person who wants to succeed in this line must possess peculiar qualifications and predispositions. Perseverance is one of them. He must be in love with his business and must be well posted in chemistry. He must be a good business man and possess the gift of making himself popular and esteemed by his customers. Add to this a voluminous purse filled with the necessary small change to be independent of middlemen and to be able to promptly pay his bills, and you have the man who will make a success of it.

The ingredients which enter into the manufacture of dry plates are not very many. The salts of silver, bromide of ammonium or potassium, aqua ammonia and

alcohol of excellent quality are easily obtained of our St. Louis chemical houses; the glass also, all imported, leaves nothing to be desired, but the *gelatine*! Here comes our best friend when good, but worst enemy when bad! No two batches of gelatine are quite alike, and only after making an emulsion with it can we first tell with certainty what qualities it possesses. No man can tell a priori whether a certain sample will make fast, slow, clear or foggy emulsions. Some kinds will yield thin working, other kinds will yield plates of quite a different character, and you may well imagine that the experiments to ascertain these qualities are sometimes very expensive.

Having made an unimpeachable emulsion and tested it for speed, clearness, intensity, absence of pinholes, we proceed to coat the glass. The glass is the best English and cut to different sizes. Formerly we had a great deal of trouble in obtaining it properly cut, without bubbles and scratches, of even thickness and not bent too much. This compelled us to examine it very carefully and reject many pieces. Of late we have had very little trouble on that score, still we have to look it over before it is washed and coated with substratum. To avoid dust, one of our greatest enemies, we keep the floors of our drying and coating rooms constantly moist with a preparation made for this purpose. The air which enters our drying rooms is filtered through a series of wet curtains, then passed over cold coils on which all the absorbed moisture is condensed and turned into ice. In this cool and dry air desiccation takes place in three to four hours.

The following morning the plates are apparently quite dry, but to be sure that no moisture is introduced into the boxes, plates and even the paper boxes are submitted to an extra warm-air bath. By this time they have been tried again and their final speed ascertained. They are examined now and cut to smaller sizes, if necessary, by packers and placed into the paper boxes, which are labeled and sealed up by girls who paste strips of paper all around them. When this paste has become quite dry they are ready to be put up in the wooden cases and ready for sale. You will now see from this description how careful we must be to make and send out dry plates. This is about all the care and trouble I can think of just now, but I am inclined to opine that the real trouble begins when they pass into the hands of careless photographers, who grow less, we hope, through the teachings and influence of such excellent journals as we have in CAMERA CRAFT.

Hot-Bath Method of Toning Bromides

Dissolve ten ounces of "hypo" and two ounces of white sugar in seventy ounces of boiling water, then stir in two ounces of powdered alum, not adding all at once, but making perhaps six separate additions. The liquid will now be milk-white, and it should not be filtered. A few pieces of waste bromide paper immersed in the freshly made solution will ripen it, and lessen any tendency to reduce the prints. The prints are best fixed first in plain "hypo" solution, and after washing they are immersed for about five minutes in a cold toning bath prepared as above; after which the bath is heated, or the prints may be transferred to a hot bath—from 120° to 150° Fahr., or as hot as the gelatine coating will stand without softening.—*Amateur Photographer.*

The New Hunting and the Old

The Views of the Gun Hunter on the Camera Hunter

By JESSE LYNCH WILLIAMS, in *Saturday Evening Post*

There's a good deal written and pictured nowadays about what is called the New Hunting, and no doubt it is a most estimable practice, this wandering about fields and streams with cameras and notebooks instead of guns and dogs, but I don't believe the old hunting will become entirely obsolete while human nature remains as it is, and they say it is going to do so for some time.

It is probably pleasanter for the birds and beasts to be shot at with a kodak than with a self-ejecting hammerless, though that depends on the man behind the camera; also, it is quite instructive for the young to know how many stripes a woodpecker ought to have on his belly; and to take pictures of "the characteristic poses of the screech-owl" is no doubt interesting to those who like that kind of hunting. But that does not satisfy the longing many of us feel stirring in our midst along about this time of the year when the stubble fields are calling and the trees are turning red, when a purple haze spreads down upon the meadows in the cool, crisp evenings, and the wondrous odors of cool delight come up from the fields at frosty day-break.

The witty Frenchman who satirized his Anglo-Saxon cousins with the story of the two Englishmen: "Look, it is a beautiful day;" "Yes, let us go out and kill something!" is supposed to have said the last word on the subject by those who do not share the ancient fret; but whether it be a relic of barbarism or not, a good many men, eminently worthy of the name, will ever cherish this bit of the primitive man, and those who humor it cannot believe it is altogether the bad part of them, either. The more I see of sport—real sport—the more I think of sportsmen—real sportsmen. The more I see of game, their haunts and habits, the more I become convinced that it was made for the purpose of being game that those creatures are attaining their individuality, fulfilling the high object of their existence when enticing or eluding the sportsman. That is, if he is a true sportsman. A bird who hasn't stood to a dog has missed his calling as much as a man who has never had to buck up against adversity or learned the zest of earning a living for his family. This does not apply, for instance, to the unnatural naturalist who shoots a bird standing on its legs, like a butcher, any more than to the pot-hunter. I am talking about real sport and sportsmen—and real game; not screech-owls or song-birds.

Between game and man there seems to be a mutual understanding, a mutual respect, and a code of unwritten laws; those who do not follow them are loathed as much by sportsmen as they are hated by the game.

Now, if any of you are sentimental followers of the New Hunting, with a few books on bird lore hidden about your clothes, I suppose you will say my logic is at fault somewhere, and I reckon it is. I never could explain it; but all I know is that the gentlest men, the kindest, the most generous I've ever known, have not been among these cataloguing hunters with kodaks and notebooks, but have been sportsmen, tried and true, men who have stood shoulder to shoulder with me in a blind all

day long in a driving northeast storm to get a shot at a pair of mallards when their fingers were too numb to pull the trigger, or have marched up hill and down dale all day long, from sunrise to sunset, working a dog through swamps, hedges, timber land and upland, and have come home at dusk hungry and tired and lame—but happy even if their barrels were clean, and merely more happy if they had a full bag to show. They may be cruel monsters, heartless murderers, imperfect products of civilization, but I don't ask for any better friends or to know better men on this goodly planet than those very fellows. And when I die I hope my boys will learn to shoot this old gun of mine, and grow up to be men of that same mould.



AN OUT-DOOR PORTRAIT
by OTTO KUSTER

CAMERA CRAFT

ISSUED MONTHLY BY

THE CAMERA CRAFT PUBLISHING COMPANY

114 GEARY STREET, SAN FRANCISCO

Edited by CARL E. ACKERMAN

VOL. VI

SAN FRANCISCO, CALIFORNIA, DECEMBER, 1902

No. 2

The Camera Tax

The Department of Concessions, Louisiana Purchase Exposition, has granted to one photographer the exclusive right to make photographs in the exposition grounds, the only exception being the press photographers, who will be permitted to make pictures for their respective publications. Although we are not yet fully informed as to the details, a fee will undoubtedly be extracted from those who wish to use small cameras, and the use of large instruments will be prohibited. The exposition management made this grave mistake with their eyes fully opened to the consequences, CAMERA CRAFT having entered a protest months ago, calling the attention of the exposition authorities to the injustice done photographers at the Buffalo Exposition, and the evil that followed the taxation of cameras.

The Chief of the Department of Concessions can have given the matter little thought, for it does not require an over-burdened intelligence to discover the fact that Photography can do more toward advertising the exposition than any other agency. While the magazines and papers of the country will be filled with reproductions from photographs of the exposition, it is the photograph itself that appeals most strongly to the public, and in thus limiting the number of photographs the exposition has done itself serious harm.

The taxation of cameras is unjust and is class discrimination. There are features that cannot but attract the attention of photographers and we do not believe that this immense body of citizens will tamely submit to the injustice. At an exposition there is gathered the best examples of modern art and progress. From all over the world manufacturers and artisans send their products to be exhibited. In truth, it is supposed to be a grand educational display. The people of the United States gather at the Exposition to study and to learn so that when they return to their own surroundings they may carry with them new ideas and higher ideals. Yet they are forbidden to photograph even the smallest part of the immense show without first paying into the treasury of the exposition corporation the "kodak tax." All because one photographer has contracted to give the exposition a percentage upon his work.

In the Art Building

While we are on the subject of the St. Louis Exposition we are inclined to call the attention of our readers to the provisions made for Art Photography by the exposition management. Some months ago, after considerable agitation, the photographers were assured that their pictures would be hung in the Art building, *if there was room*. We are rather inclined to believe that the exposition authorities have left a loophole through which to escape should pressure be exerted by the artists to exclude

the photographers. At all expositions hundreds of paintings are submitted which cannot possibly be hung because of lack of space. In spite of this fact will the exposition people promise the photographers space in the Art building? Is there not some small wing in the great building that can be definitely set aside and designated as the "Photographic Section?"

American Photographers Abroad

Reports from the Turin International Modern Decorative Art and Fine Art Exhibition indicate that the small collection of American pictures gathered and forwarded by Mr. Alfred Stieglitz of New York, created a genuine sensation. The collection, consisting of but thirty pictures, carried off twenty-one awards. Mr. Stieglitz was awarded the 2500 francs King's prize for the collection besides a Grand Prix for his own work. Clarence H. White, Frank Eugene, Gertrude Käsebier and W. B. Dyer also received the Grand Prix. Gold medals were awarded to Edmund Stirling and Rose Clark; silver medals to Mary R. Stanbery, Joseph T. Keiley, Ema Spencer and Isaac Benjamin.

Alice M. Boughton, A. H. Striber, E. Lee Ferguson, Louis Cassovant, W. W. Rennick, Eva Watson-Schütze, Thomas M. Edminston and D. D. Spellman were given honorable mention.

As England and France were represented by the very cream of their photographers and the interest in the exhibition was high, the victory of our own photographers is of no small consequence.

We extend our congratulations to Mr. Stieglitz and his co-workers who are doing so much for the advance of American Photography abroad.

Camera in Court

An English Judge, when his attention was drawn to the fact that a camera was being used in court during the progress of a trial, said that he supposed money could be made in that way as well as in any other and advised counsel and the defendant to put on their best expressions.

We are not quite sure that our Judges would be so lenient. There is a case on record in which a convicted murderer was granted a new trial because a photographer made a flash-light picture of the jury while it was being taken from the courtroom, and before a verdict had been reached.

Sportsman vs. Naturalist

Elsewhere in this issue we print an article from the pen of Jesse Lynch Williams setting forth his ideas on the subject of the naturalist hunter as opposed to the gun hunter. Although somewhat stringent in his strictures against the man with a camera, there is some merit to the writer's contentions. There is not the slightest doubt but that the hunting fever, the desire to "kill something," will linger long after there is nothing in the way of game to kill. Man has inherited the love of gun hunting, and although an advanced state of civilization has in a measure put a damper on the once favored pastime there is hardly a man, be he ever so kindly natured, who will not undergo considerable hardship to see feathers fly from the impact of No. 4 shot on the body of a big fat wild goose or the startled whir of a covey of quail. There is room for both naturalist and hunter, however, and as Mr. Williams remarks, the true sportsman is just as much interested in the preservation of wild game as is the naturalist.

The Use of the Wynne Meter

By HENRY WENZEL, JR.

Although full instructions for the use of the above exposure meter have always accompanied each meter sent out by the manufacturers, the simplicity of the meter is such that very often, after merely a casual reading, the directions are laid aside—and forgotten. To remedy this as much as possible, the writer has caused to be printed on the back of each of the newer speed cards concise instructions for the use of the meter, and on the next lot printed will appear a short note with reference to the method of using the meter when one wishes to conform to the time-worn but the still golden rule of Photography to “expose for the shadows * *.” This information will be a condensation of page 5 in the book of instructions, and is in effect that holding the meter in the shadow of one’s body, when allowing the sensitive paper to color to the standard tint, is generally equivalent to holding it in the shadow part of the subject itself.

That plate speeds vary and that, therefore, the speed numbers found upon the Wynne speed card may occasionally give way to a higher or lower number, is distinctly stated in the instruction book at page 19, as follows: “The list of plate speed numbers is the result of actual camera tests, *but as the speeds of different batches of plates by the same makers vary considerably*, they must only be taken as a guide. A good plan for a first trial is to make two exposures of the same subject, setting the Actinometer time for one at the number next above the plate speed given, and for the other at the number next below that speed. A comparison of the resulting negatives will then show which is the nearer to the correct exposure, and when once the actual speed which gives the best results is ascertained, a note should be made of it for future use.” This also, being often forgotten, the writer has thought best to add a note to the effect that plate speeds *do* often vary, to the next lot of cards printed. It would be time well spent if those who have speed cards not bearing the above information were to make brief notes embodying the same on the cards they now have.

The standard tint is the one used for outdoor exposures, and on page 4 of the instruction book this tint is said to be “the darker one”—and yet some have used the lighter

tint as the standard. The standard tint will be noted as the darker one on the new speed cards.

Although it would seem to be self-evident that if the sensitive paper be placed in a pile, under the dial, and on top of the felt pad, the light will penetrate through the paper in use to that lying immediately below at every exposure of the sensitive paper to light, still I have found many who have placed the paper in the meter that way instead of placing it under the upper coil of the spring as suggested in the directions on the outside of each packet of paper.

The exposure for a standard subject (average landscape work) must be varied to suit other subjects, as per the full instructions given on page 16 of the instruction book or the brief directions on the back of each meter case. Pages 16 to 19 of the instruction book on “photographing exceptional subjects” should be memorized, or at least carefully read by every user of the Wynne meter—and by those who use it not, as well.

Non-halation plates are listed at their utmost speed which is that of the upper and faster of the two emulsions with which they are coated; to expose for the lower emulsion, which is generally one-fourth the speed of the upper, the speed number should be lowered two numbers, *i. e.*, from $f/90$ to $f/64$, etc. The writer has secured excellent results by exposing for the upper emulsion and does not hesitate to recommend the use of non-halation plates at either the speed of the upper or lower emulsions. They provide a slow plate for general use, a fast one when needed.

As a deduction from the foregoing I would state that he will best use his meter and find it the greater help who most carefully reads the book of instructions accompanying the same.

Mr. Wenzel reports that he has tested the new Hammer Ortho plates and has found both the extra fast and the non-halation brand to be $f/64$ of the Wynne speed numbers. The probability that these plates will show an increase of speed in the near future accounts for their not being listed at their present speed at this time.

America to be the World's Art Center

Paris is the best—one might say the only—place to study art at present, but a time may come when America will itself be an “art center” to which Europeans will flock for study and “atmosphere.” It does not take so long as one might imagine to create an art center.

Twenty years ago Rome held the place Paris does today. When I went to Europe to study, seventeen years ago, favor was about equally divided between Rome, Munich and Paris, and it was the influence of my master, St. Gaudens, that decided me to go to Paris, for which, as for many other things, I am deeply grateful.

When the time is ripe for it, undoubtedly a national school of art will be established, and then it will not take long to make this the world's art center, for there is larger opportunity here than in any of the old countries. France already has her old chateaux, with their old carvings, paintings, sculptures and tapestries, and can give little encouragement to the men of today. America has hers to get, and with her growing love of the fine arts will eventually attract all the best workers.

I do not believe in forcing these things. They must be a matter of growth, and when the national life is ready for it, the national art will come—and it will stay. There is no

hurry. Americans are doing very well as they are. They lead the world in mechanics and engineering, and these departments of creative energy are as much “art” as painting, sculpture, and architecture. That idea of art as a trinity embracing these three is very crude, it seems to me—very young and innocent!

The magnificent work of Americans in mechanical inventions may be regarded as a prophecy of what they will do in art when a great national school is once founded. It should be on the lines of the *Ecole des Beaux Arts* in Paris, which gives both theoretical and practical instruction, and is open to all Frenchmen from fifteen to thirty years old. Given such a school, with the superb openings offered to artists more and more by the riches of our citizens, the growth would be phenomenal. Then art students would need to go abroad only for a year or two, merely to profit by travel, and to acquire the breadth of view that only acquaintance with foreign countries and ideas can give.

Just now, however, I fear that it must be admitted that no place in the world equals Paris for those who would become artists, and American men and women will not be content to study art here in America, knowing that there are opportunities so much broader there.—*Brush and Pencil*.

Camera Obscura

The portable form of camera obscura and its application to Photography seem to have drawn away interest and attention from the old tent form, although this latter is occasionally to be found at seaside places and holiday resorts. A lens with a reflector is fixed at the top of a conical tent made of black cloth, and the image is received on a horizontal concave table of white plaster, around which table the spectators stand. The lens, with its mirror, may be turned round from the inside of the tent, so that the whole circuit of the horizon can be swept. Those who control a favorable situation might do worse than to set up a tent camera, but in connection with this matter we may point out that one of the old style large portrait lenses, about six inches in diameter and thirty inches focal length, will give much better results than the Chevalier meniscus prism as ordinarily used. Of course, a mir-

ror must be set above the lens, at an angle of 45 degrees. Outside naval and military circles it is scarcely known that practically every harbor is protected by an ingenious application of the camera obscura. One instrument, or more, is used to overlook the water to be protected, and all parts of the camera are so set in relation to datum marks that the positions can be found again in case of disturbance. As torpedoes are laid in the water the place of each is marked on the white table of the camera. If now the ship of an enemy were in the harbor it would be easy to see when its image coincides with one of these marks, when, of course, the electric firing circuit for that particular torpedo would be brought into requisition. An obvious precaution is to have several cameras protecting a harbor, and occasionally to change the positions.—*English Amateur Photographer*.

A Photographic Digest

By H. D'ARCY POWER, M. D.

A Substitute for Silver

We have so long been accustomed to associate photographic processes with one or two light sensitive substances that the displacement of silver from its position of pre-eminence rarely occurs to us. Yet there is no reason why some more sensitive or less expensive substance should not reward the investigator's efforts. The property of sensitiveness to light is widely diffused in nature, and specific research for such bodies has never been very earnestly or scientifically undertaken. That there are great possibilities in this direction has been recently shown by the experiments of Mr. P. G. Nutting concerning the light sensitive properties of cyanin (*Vide Nature*) which, under the influence of sunshine, changes color within a minute and by prolonged exposure is capable of registering an image in the camera. Unlike silver, cyanin is more sensitive to the yellow than the blue rays. While there is little to be hoped for from this substance, it is an incentive to further research along these lines. Silver with its color blindness to yellow, green and red is not in any way ideal.

Wanted: A Plate

The subject of the last paragraph reminds me of the article by Sir William Abney in *Photography*, wherein that eminent expert points out, only too truly, how inadequately the lens and plate reproduce many pictures seen by the eye. Speaking of distances of twenty or thirty miles, he says that they and the sky become indistinguishable from one another, "and the photographic negative, and much more so the print, show a blank where the eye sees a variety of gradation." "We recollect well such an example taken from the top of Lysloch, 14,000 feet in height. A perfectly clear day enabled one to see right away to the Mediterranean, but the print showed all the distance as a hazy blank. An artist who sketched the view was able to show with fair accuracy of gradation all the distance, and at the same time to retain the foreground of rocks in fair relation of tone to it. In other words the artist was able to make his own scale of gradation and give his

proper values to all parts of his sketch." Sir W. Abney then goes on to show that this defect is not only inherent in the ordinary dry plate, but even in trichromatic photographs and sums by saying that "What is wanted is an improved plate. It may not be a quick gelatino-bromide plate. It may even be a slower plate, containing other ingredients besides bromide. The old collodio-albumen process gave an approach to what was required, but in these days of snapshots, where the exposure is wanted in one-hundredth of a second, the exposure on a scale of minutes would become insupportable. We want a plate that is fairly quick and that can be manipulated during development in such a way that the scale of gradation more nearly approaches that which the artist gives."

The Correct Description of Dry Plates

Closely related to the subject of the last paragraph is the paper of Mr. Chapman Jones in the *English Amateur Photographer*, demanding the careful testing of dry plates and a proper description of their qualities. He most truly says that the terms used by platemakers convey no real information to the serious and technical worker. Take, for example, Seeds' excellent orthochromatic plates which are labeled in two brands, for landscape and portraiture respectively. It is to be presumed that the latter have their maximum sensitiveness in the red and the former in the yellow green, but whether this is so and to what extent is not indicated. Modern testing methods allow of this being stated and it ought to be so. As Mr. Jones says: "We are in this matter very much where we were with regard to lenses ten years ago, before anastigmatic lenses were appreciated. Now, instead of the size of the plate, and the kind of work that the lens is supposed to be suitable for, we have a detailed description of its construction and performance. A similarly detailed description of sensitive plates would be of very great assistance to the user, and there is little doubt but that it would ultimately prove to be of advantage to the industry."

Hints on Using Rollable Films

The following hints on rollable films are the outcome of a fairly extensive use of these by the writer, and may prove acceptable to many who adopt this very convenient article for exposing upon. It is found, however, not so easy or convenient by many when it comes to developing the spool. The method I adopt is as follows: The whole spool of twelve exposures is cut up into convenient pieces of two or three exposures each, and these are all allowed to soak in a large pudding basin for a few minutes. It is best to cover the basin with cardboard, or some form of cover, whilst the films are in the dish. The developing itself is done in another dish, preferably a long and deep one, and the developer used can either be metol-quinol or amidol-quinol. The latter is advisable if metol inclines to irritate the skin. Use *plenty* of developer, and well immerse the first piece in it, moving and turning over frequently. With these developers the image appears very quickly, and brings out all there is in the picture. Provided plenty of developer is used, it is possible to develop two or three pieces at the same time, manipulating them exactly similarly as one would when toning prints, etc. Owing to the previous soaking which they have had they will be found to lie perfectly flat. If it is found necessary to intensify any of the prints afterward, it is a good idea to support them on a piece of glass, each end being held down by elastic bands. In drying the films they should be pinned by the four corners on to a round pole, and when dry will remain in a flat condition, instead of curling, which they would do if pinned on to a flat surface.—*Dens in English Amateur Photographer*.

Gum Prints in Polychrome

A writer in the *English Amateur Photographer* (W. W. M. M.), describes the following method of obtaining color effects. He says:

With a little care and trouble a very pretty effect can be obtained by any one who understands the rudiments of the gum-bichromate process, and the following instructions will hold good for any description of photographs where there is not much detail of color required. For instance, a study of fruit, with its masses of color, is a far better subject than a bunch of flowers, where the petals would have to be treated with such finesse that it might deter many a beginner, who might

otherwise in the end make flowers his special study, and excel in this direction. Anyhow, for a start, we will decide on a composition of, say, oranges, plums, grapes and a melon. Let these be arranged in one of the orthodox groups so often seen now, with the usual wine glass of the dock species to balance the picture, and take a fairly large-sized photograph, say, as an experiment, a half-plate negative; develop as usual for a fairly plucky negative. When dry take a piece of paper, on which the coating is to be made, and placing same against the negative, make a tracing of just the outlines or contour of the fruit, etc. (make this distinct, as from it we have to make yet another skeleton drawing), by putting the negative against a window pane or on a retouching desk. This being done, take away the negative. By holding the paper against the light again, on the reverse side very carefully trace the lines, faintly this time, as this is the side to be coated. Next treat the paper for coating with the pigment and bichromate as usual. Instead, however, of coating the whole sheet in one color, very carefully with a fine brush coat the fruit, etc., in its own color, but mind one color does not spread in any degree whatever with the other, by letting each properly dry before the contiguous one is treated. The background must be of a color to harmonize with the subject, also carefully treated. When completed the paper looks something like an unfinished map waiting for the names to be put in.

When the whole sheet is fit for exposure, place the paper again against the negative, adjusting the outlines in exactly the proper positions to leave no margin round the fruit, etc. Print and develop in the usual way, and the result will not only be a very artistic, but a most pleasing photograph in natural colors and will puzzle a good many amateurs, who will, of course, ask for the "secret."

There is no limit to the effects that can be obtained in this manner, and there is a vast field open for the ideas, the taste, the imagination, and last, but not least, for the skill of the operator.

Sunlight Effects

I have frequently referred to the question of the common failure of Photography to adequately render sunshine. It is a failure that is receiving more and more attention in many quarters, and not a few critics are inclined to believe that the excessive preponderance of photographs in a low key in our exhibitions

is not altogether an expression of the artistic temperament of their producers so much as a seeking of the easiest road to fame.

In a recent issue of *Photography* the subject is dealt with, and the following very pertinent remarks will not be without interest to those who may love sunny noon more than a misty gloom:

The question then to be settled is in what essential respect does a view in sunlight differ from one in diffused light? The mere intensity of the illumination may be ignored; it is in no sense part of the "effect," since the eye corrects this at once, and quite without the beholder being conscious of the fact that it has done so, by the simple process of "stopping down" its lens by the contraction of the pupil. The difference lies rather in the distribution of the gradations. On a gray day the brightest spot and the darkest spot in a landscape differ much less in degree of luminosity than do the same spots on a sunny day, but on the gray day the intermediate tones range evenly between these two extremes much more than on a sunny day.

The characteristic of a sunlight effect, apart from the mere presence of shadows, lies in the fact that the half-tones are, as it were, huddled up together at the two ends of the scale; in the gray-day effect they are more evenly distributed. The sunlight gives us the gradations in two well-marked groups; one includes all the parts directly shone upon by the sun (the high light gradations), and the other all the parts in shadow (the shadow gradations). The intermediate tones will be found, to a great extent, to be missing. The task before the photographer is to get such a result in his print.

There is only one photographic method of doing this, and if that method is not resorted to, the photographer who wants sunlight effects must put them in on his negative with stump, color and *papier minérale*—a method, by the way, which in skilful hands is often very successful. The method we refer to is the use of a plate with as long a scale as possible, and of an exposure which, while not erring more than is avoidable in the direction of over-exposing the high lights, is at any rate certain in the more important matter of exposing for the shadows. The old rule "expose for the shadows and let the lights take care of themselves" is as important in this as in any side of Photography. It must be followed up by correct development, the danger here being *over-development*. Many—we had

almost written "nearly all"—of the would-be sunlight pictures we see have all suggestion of sunshine taken out of them by the combination of the two defects under-exposure in the first place, and over-development, the result of hoping against hope that the shadow details may ultimately "come out."

We might summarize the subject by recommending preferably a slow plate—because its range is generally greater—backed, of course; the correct exposure, also of course, but, what is not quite so obvious at first, the *minimum* correct exposure, followed by just sufficient development to give as much contrast between the different tones in the shadows as the subject requires. This will minimize the risk of over-developing the high lights, which causes the sunlight effect to be lost at once.

A Warm Testimonial

Mr. Henry Wenzel, Jr., United States agent for the Wynne Exposure Meter, hands us the following unsolicited testimonial to the merits of the Wynne Meter, which we cheerfully publish:

HOLCOMB ROCK, VA., Nov. 18, 1902.

Infalible Exposure Meter Company, Brooklyn, N. Y.:

DEAR SIRS—You may be interested to know that a skeptic in regard to exposure meters has been completely converted and now would not be without one of "Wynne's Infalible Exposure Meters" for the price of a gross of plates.

Last Sunday I exposed two dozen plates—Cramers—and in every instance submerged my own judgment in the testimony of the Wynne meter, exposing exactly as the meter advised.

The exposures varied from 1-50 of a second to 25 minutes, the last a very dark interior, and various sizes of stops were used.

On developing with normal pyro the exposures proved, without exception, correct and needed no doctoring to produce fine negatives. The best of us very often go wrong in our judgment of the exposure required, but it has been my experience since using the Wynne exposure meter that this admirable little instrument is always correct in its judgment—provided the user is not color blind.

Yours very truly,

GEO. O. SEWARD.

The Amateur and His Troubles

By FAYETTE J. CLUTE

Another Way of Turning a Dollar

An amateur friend in the Western Addition was appealed to the other day by an acquaintance in the wholesale district to attempt the making of a few pictures of his own children dressed in the garments offered to the trade by the manufacturer and wholesaler. This man of business desired, if practical, to procure photographs for the use of his salesmen and possibly a catalogue in which the same photographs would be reproduced by the half-tone process. My amateur friend has three lovely children, and it was but the work of a few afternoons to supply the business man with just what was required. Aside from the beauty of the children, the home surroundings gave the pictures a charm and naturalness that counterbalanced the slightly less successful lighting, as compared with work that had been attempted in a gallery. Another factor in the case was the entire lack of that consciousness so hard to avoid in children when photographing them among strange surroundings. All in all, the dealer was so well pleased that a large order was given at the best of prices, and my amateur friend was requested to keep such of the garments used as he might desire. As some of them were quite expensive productions, my friend had to be quite urgently implored before he would accept enough of them to satisfy the pleased manufacturer. The incident illustrates the fact that there are some things the amateur can do better than the professional and through no fault of the latter.

An Amateur With a Specialty

There is an amateur over in Oakland who is doing all the work he can do at good prices. In fact, it is hardly fair to call him other than a professional, but knowing him to be but a boy and with only about fifteen months' experience in Photography, the former title sounds more appropriate than does the latter. He does no advertising, not even putting his name on his work; at least, not in the way generally affected by the professional "view" man. He uses only a modest 4 x 5 camera and confines himself to interiors

exclusively. I met him the other day, and we had quite a lengthy talk. I had answered a letter or two of inquiry from him and so we seemed old acquaintances at once. The camera fell into his hands a little over a year ago. It was one of the old-fashioned kind that was intended to be used on a tripod. Its antiquated appearance was one of the reasons why it was never given a chance to show what it would do outside of the house. Novice like, he tried the first plate on the interior of the front parlor. He assured himself that he had gone through with all of the details correctly, counted five while the lens was uncapped, and then took the plate to the dealer to be developed. He watched the operation and learned that it was a sadly undertimed plate. The dealer told him to give four times the exposure and results would be better. He counted twenty at the next attempt and development resulted in a correctly timed negative, but such a looking print would have been hard to match. This put him on his metal and he determined to keep at it till he could go into any room in the house and secure a good negative. Every difficulty was met and conquered as far as possible. When tempted to give it up for landscape work he reasoned it out that there was certainly enough to learn in this one particular line and until he had mastered it there was little need of going afield for other worlds to conquer. He has never experimented with developers and wasted his time in trying all the new print methods. He has simply given his entire attention to overcoming the difficulties attending the securing of good results in interiors. He can tell you why a high position is better for one subject and a low one for another. He has a battery of three lenses of varying focal lengths and can see at a glance whether a certain subject is better treated as a wide-angle view or whether a characteristic bit or portion of the room will be more pleasing. He knows whether any certain room will be better rendered on an isochromatic plate or on one of the ordinary kind. His plates are always backed with Newcomb's compound and where windows are included, double coated plates are used as

well. The latter allowing of a better compromise in the exposure between the better lighted portions and the shadows. He says that, contrary to the usual advice, an interior can be spoiled by over exposure. He has figured it out that, with his five-inch lens and using a 4 x 5 plate, a certain subject will be in good focus with stop $f/11$ we will say. If now, he uses an 8 x 10 plate it will require a ten-inch lens to secure the same amount of subject on the plate. To secure the same depth of focus with this larger lens, a stop about $f/45$ must be used. If the subject be one of those where the closing of some of the blinds has been deemed desirable to improve the lighting, or for any other reason the exposure required has been lengthened into minutes as is often the case, the smaller camera requires say fifteen minutes while the larger one would necessitate an exposure of four hours, owing to the smaller f value of the stop required. He has had an enlarging box made that is the perfection of simplicity because he uses it only for making 8 x 10 enlarged transparencies from which to make new negatives or for 8 x 10 bromide enlargements. His success simply demonstrates the advantage of what I have preached in this department before, namely, concentration upon some one line, in other words, having a specialty.

Photographing "Live Things"

An eastern amateur, an old correspondent, one who has made the photographing of animal life his hobby, recently won a prize offered by a widely circulated magazine devoted to ornithological matters. In writing to congratulate him on his success in his work, I asked him to give me a few pointers for the benefit of my amateur friends here on the coast. The following hints were furnished: It is important that some characteristic surroundings be secured in the picture. A bug or beetle looks much better if placed on a twig or leaf than if pinned to a card. Squirrels seem more at home on the limb of a tree than when placed amidst incongruous surroundings. Patience is a prime necessity. It is easy to find a certain perch that is a favorite with your subject. Focus upon the spot and then await the arrival of the subject. A large camera seems to cause birds and small animals much less alarm than one of a smaller size. My correspondent has gone to the trouble of having made a very plain box, in fact, it is hardly more than a cracker box of the right dimensions. This is placed

near the spot selected, be it the nest, the perch selected for vocal renditions or in the case of a squirrel, his dining room as it were, and allowed to remain for several days. Later the camera is inserted, the lens, of course coming opposite an opening in the front, the lid closed down and a thread which acts as a shutter release, carried to a near-by hiding place for the photographer. The rest is simply the exercising of a little patience. Sometimes this may be curtailed by the employment of some dainty as a bait. A supply of building material, will, at the nesting season, bring the home builder again and again to the spot. A bug or beetle secured in the intersections of a rough bit of bark will take but a short time to attract the attention of one of the feathered gentry. Squirrels will be found to have haunts and runs where they may be depended upon to make their appearance quite regularly. Patience and observation will be well repaid in following this branch of Photography.

"Pipe-Stem" Films

One of my amateur friends has a method of overcoming the most disagreeable tendency his films have of rolling up into "pipe stems" while being printed from. He tried the glycerine bath, but discarded it on account of the sticky nature of the resulting films. Now he simply places them in a box, generally a cardboard one, the lid of which has been well dampened, and in a very short time they absorb enough moisture to cause them to lie perfectly flat. If they show any inclination to again curl before the required number of prints have been made they are returned to the box for a few minutes while another set of films are being printed. Of course, one must avoid getting the lid damp enough to drip water on the films below, but otherwise there is little danger of going wrong in the matter.

A Good Reducer

My experimental friend is happy. He tries everything he can find in the way of a formula and does it so persistently that he has little time for making negatives. The result is that he has less than a dozen that have been allowed to remain in their original condition. It is a reducer this time, and reduces the high lights without affecting the shadows, much as does the persulphate reducer. It is just the thing for under-exposed and over-developed negatives. It must be simple and sure in operation or he would

never have had success with it. At least he says so and he should know what his average is as to failures in his experiments. It is compounded as follows: A solution: One ounce of potassium permanganate in four ounces of water. B solution: One ounce of sulphuric acid in four ounces of water. To employ, take half a dram of A, one dram of B, and eight or ten ounces of water. Candidly, I think it worth a trial.

As to Competitions

Competitions innumerable are announced by publishers throughout the country. Some of my readers may enter prints and for that reason the following which I clip from the notice sent out by the *Buffalo Express* concerning their contest may be of interest as applying in a greater or less degree to all competitions of this kind. The extract reads as follows: "We care but little for trees; Niagara Falls most of our readers have seen depicted already; cows are not absorbingly exciting, except when jumping over the moon; a few dozen burning oil wells we have already in stock; fat alone does not endear an infant to us, but we are open to conviction in most other respects." You can compare this with the announcements made concerning the aims of any of the photographic salons and then take your choice. I imagine a different class of pictures should be entered in each and perhaps the honor derived is of a different sort. At any rate, all can be suited if they but go to the right shop with their productions.

Making Enlarged Negatives

I had a quiet little chat with the old professional the other day and the conversation turned to the making of enlarged negatives. A few of the hints that he let drop may be of interest to my amateur friends, particularly as they differ a little from the instructions that have become rather hackneyed. The first essential is the securing of the right sort of a transparency. This should be what would be called in a negative an over-exposed and over-developed one. Such a positive as would be suitable for a window transparency with a ground-glass backing will not give good results in producing an enlarged negative. The positive must contain all possible gradation and only the highest of high lights are permissible as clear glass. In copying a small picture, do not attempt to make the transparency too sharp. Avoid using too small a stop. If the grain is too

sharp in the enlargement as seen upon the ground glass of the enlarging camera, try the experiment of moving the lens a little further away from the plate. Do not make the mistake of bringing the lens closer, as the result is entirely different. This softness secured by increasing the distance between lens and ground glass will make almost imperceptible the coarseness so common to enlarged negatives. Not only this, but the nature of the softening is such that the work of the retoucher, supposing the subject is a portrait, is made easy and effective.

Mr. B——'s Lament

Do not buy one of those developing machines that the stock houses are trying to sell to every user of films. They are worse tempters than the historical serpent. At least so my friend B—— says. The cause for all this condemnation came about in this wise: Mrs. B——'s sallies at Photography have always been a rather inexpensive form of amusement for the rest of the household. By explaining with all the impressiveness with which long experience endows one, that to succeed one must develop their own exposures, Mr. B—— has kept the expenditures for films for his wife's kodak well within the limit. On a certain ill-fated day one of her friends who lacked the foresight to see the result, in other words, one who didn't know any better, made her a present of a developing machine. B—— asserts that she even sends the children out to make snap-shots while she surprises herself with the good results that the machine gives her. But I am missing the point. B—— wishes it made known that his own bankruptcy, divorce proceedings against his wife, or a rise in the price of films on the local market, should any or all of them occur, are blamable solely upon the Eastman Company.

Photo Lighting

We have received from the publisher, H. A. Hyatt, St. Louis, a copy of *Photo Lighting*, by Professor Raymer. The copy was handed to one of the best professional photographic operators in the West, Mr. H. P. Smith, for review. After reading the book he summed up his remarks in one sentence: "The book is invaluable to the novice and indispensable to every professional operator."

Published by H. A. Hyatt, St. Louis. Price, \$2.50.

Notes and Comment

The Century Camera Company has evidently struck the market just right with its "Petite Century." We are assured by a number of dealers on the Pacific Coast that the demand is far greater than the supply.

The Voigtlaender Catalog

The Voigtlaender & Son Optical Company has just issued a new catalog, handsomely illustrated and containing a complete description of all the lenses made by the company.

The new lens for process work, the "Apochromat," as well as prisms for the same, are listed.

The Collinear of Series II is also listed with the special "focusing jacket" mounting, for use in cameras having focal plane shutters. The well-known Euryscope lenses will now be furnished. The catalog also contains a list of the Series III, which has been for years perhaps the most popular portrait lens.

Three New Books

Messrs. Tennant and Ward, New York, have recently published three most excellent little manuals. "The Lens," by Messrs. Bolas and Brown, a careful and lucid exposition of the main points in the construction and use of the photographic lens, with no more mathematics than the man of average education is likely to possess and yet sufficient thereof to enable him to clear up for himself the hundred and one little problems which the amateur is constantly relegating to his photographic journal for solution. "Photographic Apparatus" and "Finishing the Negative," by Mr. George E. Brown of the *Photogram*, treat so well and exhaustively of their respective subjects that no amateur should be without them. They are to be especially commended for the excellence of their illustrations.

Bausch & Lomb Competition

The Bausch & Lomb Optical Company, Rochester, N. Y., advise us that their action in advancing the date of closing their Quarter Century Photographic Competition to October 3, 1903, has met with very general approval among photographers, who realize the importance of this competition, and are anxious to submit as perfect work as possible. A number of the foremost photographers of the country have signified their intention of en-

tering the competition, and the whole spirit of the competitors indicates quite as much interest in making the exhibits the best that have ever been gotten together in a competition in this country, as in winning the pecuniary awards, which, however, amount to \$3000 in the aggregate. The special award of \$300 as a grand prize for the photograph showing the best lens work of any submitted in the competition is attracting a good deal of attention among photographers who seek to know the lens and its possibilities.

The Los Angeles Camera Club

The members of the Los Angeles Camera Club have returned from their summer vacations with plans for an earnest season of work, as is evidenced by the excellent programme planned for the winter meetings and the elaborate preparations being made for the club classes, which have already begun.

These classes will be in charge of Mr. E. J. Porteous, who has outlined an excellent series of lessons, beginning with the development of the plate, and proceeding through the various processes, including portrait taking, enlarging, etc.

The Saturday afternoon teas which proved so popular last season have been resumed, and a social evening will be held on the third Friday of each month, these gatherings being in charge of the Entertainment Committee.

The *Club News* has again been enlarged and its circulation is steadily increasing.

The club dues have been increased from 50 cents per month to \$1 for active membership and from 25 cents to 50 cents for associate members, the initiation fee having been raised from \$3 to \$5. Some additions are contemplated for the portrait gallery and altogether the outlook for the progress of the club was never brighter.

Developers for Short Exposures

Herr Hauberisser, in the *Photographische Rundschau*, describes a long series of experiments carried out in order to determine how far the various developers might have special merits in the matter of bringing out underexposed details. Hydrochinon-eikonogen, metol-hydrochinon and edinol come at the head of the list of developers which give best results.



STUDYIN'
by ELIZABETH W. NOTT

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. VI

SAN FRANCISCO, CALIFORNIA, JANUARY, 1903

No. 3

Impressions of the Orient—Japan

By HERBERT G. PONTING

Illustrated from photographs by the author



IT WAS my good fortune to have my first glimpse of fair Japan under conditions such as could not possibly have been more favorable for the creation of a lasting impression, and the memory of it comes vividly back to me whenever I hear the name of that charming land spoken.

We were due to enter Yokohama harbor about daybreak, and long before the first streaks of dawn had dimmed the brilliancy of the moonlight I was up and on deck in order that nothing should be missed of the scenes I had all my life longed to see. A beautiful sight it was, for a full moon was shining in all its glory from amongst little bunches of strato-cumulus, the sea reflecting all as in a mirror, for the surface was smooth as glass. We were steaming along just outside the entrance of Yedo bay, and soon began to pass a few sampans, at first barely distinguishable except where they passed across the brilliant line of the moonlight, when they stood

out in strong silhouette, but as we went further along, and the day began to dawn, they increased in distinctness and number until it seemed there must be many hundreds of them proceeding to their favorite fishing waters, mostly propelled by the strong arms of these sturdy fishermen, with long sweeps skulled at the stern precisely as the tail of a fish. The shape of these boats with the figures swaying to and fro in dark relief against the moonlit water was a novel and entrancing picture, and filled me with delightful anticipation of what was to come.

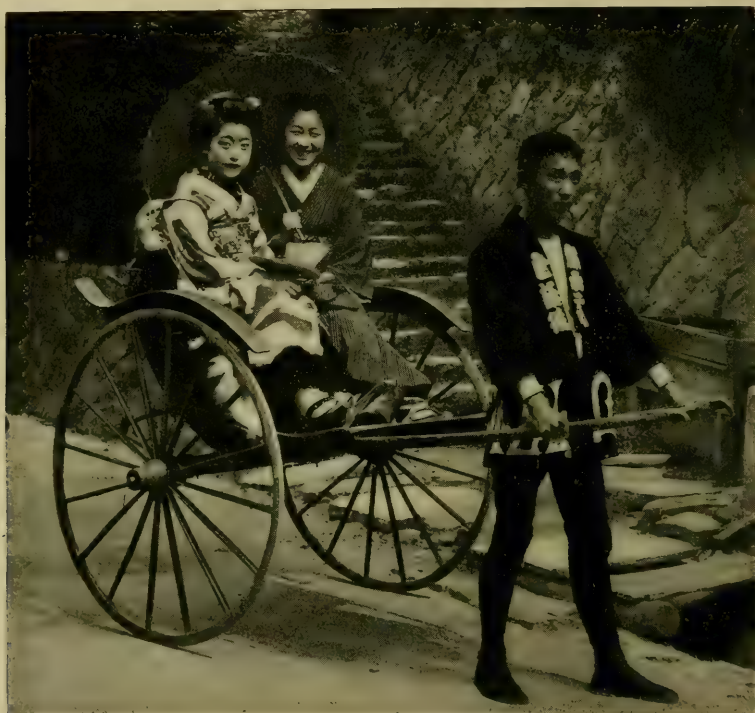
Some of the boats were under sail, but the shape of those sheets was like nothing I had ever seen before. They stretched from a large square yard at the top of the mast to the hull below, and as there was scarce enough wind to even ruffle the surface of the water they hung listlessly in beautiful festooned folds, for they are never furled but drawn up or set by a number of cords which pass down through the length of the sail, about a foot apart.

During my fascination with the fishing boats we had slipped along much further into the bay, and on looking ahead again there was now faintly distinguishable on the port bow, in the distance, the loveliest of all the lovely features of Japan the delicate outline of the beautiful sacred mountain Fujiyama, which, majestic and

without rival, rises in a perfect cone, far above the highest peaks of the mountain ranges in which she reigns supreme.

On the opposite side of the bay the sun came creeping up over the hills, and as it rose, a great red ball of fire, it tinged the whole arch of heaven a ruddy glow, which reflecting on Fuji's dazzling slopes tinted her snowy crest a delicate pink. The now fading moon setting just over her, the numberless quaint fishing craft in the foreground and the dainty pearly coloring of the whole, provided the finishing touches of an exquisite picture such as no imagination could have conceived, nor brush have portrayed.

Many times afterward did I see that matchless mountain under almost every condition of sunshine, storm and snow, and gazed enraptured at her at all times of



JINRICKISHA BELLES

*From a stereograph by the author
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day from dawn till sunset, but never did she appear more beautiful than during the first hours I spent in Japanese waters.

I can scarcely attempt here any description of Japan, as nothing but a fair sized book could contain an account of the wonders and beauties I saw in that fairy's land, a few impressions merely must serve at present.

There is so much to engage attention when one gets ashore that one scarcely knows where to begin. We want to see it all, not one single thing do we feel we can miss; the streets, the houses, the shops and the canal with its teeming life. The latter, however, can wait a while, for we have already seen something of aquatic life as we came up the bay, but a closer look into its details will furnish many a happy hour's entertainment bye and bye.

Let us glance at the life first and familiarize ourselves a little with the inhabitants of this bewildering place into which we have come.

Surely one and all must first be impressed with the amount of evidence to the indisputable fact that the Japanese are the most prolific of races. Wherever one looks there are babies. It seems to me that in all my life I cannot have seen so many babies as during the few weeks I spent in Japan. One meets a man and then a baby, then two babies, then a woman with a baby, then a man and a woman each carrying babies, then several babies of about three, each with a smaller baby tied in a sling to



IN AN IRIS GARDEN

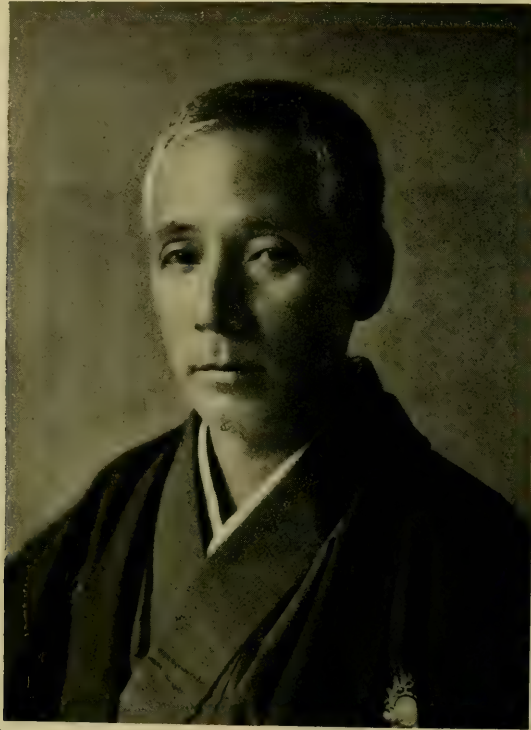
*From a stereograph by the author
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its back, then a few babies playing in the gutter, then some boys and girls at their games half their number with babies on their backs, and then a bunch of assorted babies of various sizes and ages; in fact, everywhere you go in Japan the land seems to be overflowing with these comical little scraps of humanity. I say "comical" because they don't look real altogether, they are more like dolls; in fact, exactly like the Japanese dolls found in all toy shops.

They are quite different in appearance to the kind of baby I had been accus-

tomed to, but do not differ a particle from the orthodox variety when it comes to crying; they do it just as well and quite as lustily as the western article. I have mentioned the children first of all the sights of Japan, not because they are the most interesting feature by any means, but because on account of their numbers they are the most noticeable one.

Being masculine, my attention was naturally first directed to the women—the women of Japan to whom every one has become so accustomed on fans, porcelain and paper serviettes. Now I must frankly confess to a feeling of slight disappointment over them. Dainty and graceful in a way they most certainly are, and courteous and polite to a degree, but pretty, except in isolated cases, they are not. The illustrations,



Y. NAMIKAWA OF KYOTO, THE FOREMOST CLOISONNE
ARTIST OF JAPAN

By Herbert G. Ponting

however, which appear on these aforesaid fans, china and serviettes are rank libels on their personal appearance, for if not beautiful they are certainly possessed of greater charms than they are thereon usually given credit for.

Coming from England with its exquisite feminine complexions and through America, that land of which the crowning glory is the grace and beauty of her womanhood, I found the chief charms of the Japanese women neither in their beauty nor their deportment, but in their gentle, courteous manner and their pretty, picturesque costume.

To the traveler who comes eastward to Japan, however, from the jostling crowds of China, the maidens of Japan will seem fair indeed in comparison with the gaudily bedizened women of Canton or the native city of Shanghai. The dress of the Japa-

nese women is becoming in the extreme. There is but one fashion—the kimono, in such an infinite variety of designs and colors, however, of silks, crepes and cottons, that it never palls and is always attractive and pleasing.

Out on the sunny street what a strange and wonderful panorama of life it is which passes along from early morn till long after dark. Look where one will, they are all, man and woman, old and young, rich and poor, intent on something—all save the playing babies. There are no saloons on the water front here, as in the great American port across the Pacific, crowded inside and out with besotted loafers. Every one is on the street for some purpose; buying, selling or hurrying off on business or pleasure elsewhere. In all my stay in Japan I cannot recall having seen a single loafer, and surely this—the persistent industry of the people—is a chief factor in the wonderful ascendancy of the country during the past thirty years.

Little does one imagine when first one sees these people, placid and calm of feature—many vacant and expressionless according to western ideas—that under the humble exterior of just such men as are passing, there may be concealed a brain and ability capable of conceiving and executing works of such boundless art that connoisseurs are spellbound by their beauty; works that demand weeks and months and oftentimes years of patient toil and study. Works that are executed from conception to finish often by a lone individual toiling on a single piece for months or years in his little home till finally the cherished thing stands complete—a master's work of art. Such is a brief outline of the history of many of Japan's greatest masterpieces in ivory, cloisonné or carving in wood.

And watch the faces of the aged. In all the world what land can show such wondrous types as these, each in itself an artist's study.

And where else can be found ancient and modern hand in hand as they are here?



A CLOISONNE ARTIST AT WORK

By Herbert G. Ponting

The old man wrinkled in visage, with skin of parchment hue, staff in hand and pack on back, old yet sturdy, for although not less than eighty summers can have passed o'er his head, there is little in his step, as he comes along the street, to betray the age which his face and bent form betoken. He wears his thin hair long and fastened into a tiny queue on top of his head, his legs are bare and his feet shod with grass sandals—"waraji." Beside him walks his wife—aged also, but much the younger of the two, a cotton 'kerchief round her head and a blue kimono are her only gar-



STAFF IN HAND AND PACK ON BACK *From a stereograph by the author
Copyrighted, 1902, by C. H. Graves, Philadelphia*

ments. Her face like his is wrinkled, her lips are large and thick, and her teeth are blackened. She, too, bears a staff and a heavy pack. They are peasants from the country and have borne for many miles such produce as they have to sell, maybe for but a few cents, or to barter for some of the other necessities of life. These are shadows of the real old Japan, the Japan that has not yet altered. And as they pass, a dashing cavalry officer mounted on a well-groomed bay stallion, whose glossy coat shines in the sun, comes trotting down the street. He wears a tunic of dark blue,

tight red breeches, top boots and spurs, a red cap with band of gold and a black and gold imperial crest in front. As he passes by, with the chink of his "scabbard of steel smiting his stallion's flank" he presents a most strikingly debonnaire and military appearance. This is modern Japan indeed, a type of the men who have so recently and forcibly demonstrated that henceforth the kingdom of the Mikado must be counted as one of the military and naval powers of the world.

On Benten Dori, one of the principal streets of Yokohama, there are to be found shops which the lover of the beautiful and artistic in any form will find of absorbing interest. There is a tantalizing assortment of Satsuma and other porcelain, cloisonné ware, brasses and fine bronze, superb articles in the beautiful lacquer ware of Japan, fine silks and embroideries, paintings, models, silverware and carved ivories. The art of ivory carving is foremost among the arts of Japan and calls for a delicate degree of skill ranking next to none in the world. Superb pieces may be seen representing most of the characteristic features of the people and their avocations. They call for and will readily command the closest study. All seem beautiful at first, but as the eye and judgment become educated, it will be seen how many reasons there are why of two pieces apparently alike at first, one has a difference in value of ten times the price asked for the counterpart. In all Japan there are but two or three artists who do the finest work, and the skilful manner in which every tiny detail receives due attention and treatment at their hands, is just cause for the difference in value.

Attractive as Yokohama is, however, it is far eclipsed in interest by the inland towns such as Tokio, Kyoto, Nagoya, etc., which, being further removed from foreign influences than the treaty ports, are infinitely more Japanese in character, and the curio lover may easily spend many days in ecstatic wandering through the shopping streets of such towns as these.

Tokio has been called the "Venice of the Orient," and the soubriquet is a happy one, inasmuch as the city is divided and subdivided by canals in many directions, and the life on these waterways is of unique interest.

The fish market is a curious sight. It is said there are more varieties of fish and marine carnivora in Japanese waters than in those of any other country, and as the people eat everything that comes out of the sea, the selection of piscatorial life that is displayed for sale must be left to the imagination, as it cannot be described: the most hideous and repulsive creatures are displayed alongside of fine, palatable and gorgeously colored fish.

Tokio is an immense city, estimated to cover an area of one hundred square miles, and the number of places to visit and sights to see is bewildering in the extreme. Shiba Park, with its beautiful avenues and lotus lakes, is a charming spot, and serves as an exquisite setting for the mausoleum temples of the Shoguns, which rank among the chief marvels of Japanese art. These gray old tombs and temples are most impressive and are approached by many rows of ancient lichen-covered stone lanterns. One may study Buddhist and Shinto temples in Tokio to one's heart's content, there is an endless variety of them.

In the center of the city are the beautiful grounds which enclose the Imperial Palace, surrounded with a massive stone wall and a moat. Mukojima, the famous avenue of cherry trees which stretches for a mile along the east bank of the Sumidagawa river, is one of the most celebrated features of Japan in April, when countless thousands of pleasure seekers throng this region, enjoying the beauty and fragrance of the billows of blossom which adorn the trees.

From Tokio it is but a few hours' journey by train to Nikko, perhaps the loveliest of all the lovely spots in the realm. Here there is an avenue of cryptomeria trees twenty-seven miles long. It is a majestic conception and regally carried out. The trees are not unlike the cedars of the Sierras. Tall and straight they grow and meet high over head, the light below being sombre and gloomy except where the sun penetrates low down between the trunks. The Japanese have a proverb which says "Never say beautiful until you have seen Nikko." To them it is the climax of what



WATCHMAN OF THE TEMPLE

*From a stereograph by the author
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Nature in her kindest mood can accomplish. Having seen it, I am in the proud position of henceforth being competent to judge of natural beauty, in whatever part of the world it may be my lot to be cast, at least a Japanese would think so.

My memory lingers longingly and lovingly on this delightful part of my travels. The Shogun mausoleums which are situated here are awe inspiring in their beauty and grandeur. Words such as I could command would fail utterly to convey any idea of the superbly designed setting in which these magnificent structures are placed,

nor do I think any one could adequately describe the elaborately embellished gateways and buildings themselves. One cannot but feel respect for a religion, the followers of which can conceive and erect such impressive and enduring monuments in memory of its advocates.

Miyanoshita in the Hakone Mountains is a veritable fairyland of beauty. Never have I seen such a mountain paradise. The air is so recuperative and invigorating that one glories in the very fact of living, but when to that is added the delight of living in one of the fairest parts of the earth, and surrounded with every luxury the most exacting could require—for the Fujiya Hotel is without a rival in all the Orient—one may easily see how it is that visitors who come here for days, stay for weeks, and those who come for weeks find the weeks extend to months. I look back with perhaps more pleasure on Miyamoshita than on any other rural spot I saw in Japan, and the few days I spent there, during which I walked twenty to thirty miles each day over the hills, were some of the happiest of my life.

During one of my rambles to Lake Hakone from Miyanoshita I discovered, at a cottage, something of a curiosity in the way of a guide book. It was by a Japanese and translated into English by another native. Of the charms of Hakone there was this to be said:

Whenever we visit the place the first pleasure to be longed is the view of Fuji Mountain, and its summit is covered with permanent undissolving snow, and its regular configuration hanging down the sky like an open white fan, may be looked long at equal shape from several regions surrounding it. Every one who saw it has ever nothing but applause. It casts the shadow in a contrary direction on still glassy face of lake as I have just described. Wind proper in quantity suits to our boat to slip by sail, and moonlight shining on the sky shivers quartz luster over ripples of the lake. The cuckoo, singing near by our hotel, plays on a harp and the gulls flying about to and fro seek their food in the waves. All these panorama may be gathered only at this place.

What need for me to offer any description after that!

At Otome-toge, a few miles away, I gazed down from a height of 3300 feet upon a fertile valley dotted with the villages which mark the Tokaido, the ancient post road from Kyoto to Tokio at this point. Fourteen miles away, but yet so near in the clear air as to seem but a fraction of that distance, the incomparable Fujiyama rises from the valley, in a boundless curve sweeping ever upward from the base, over fifty miles in circumference, to the snow line, and thence steeper still far up to the lofty crest gleaming in surpassing loveliness in the noonday sun. How beautiful she is, towering up in 12,400 feet of unbroken symmetry, her shapely top covered with a diadem of dazzling virgin snow. Far below the spotless line little detached bunches of fluffy clouds floated lazily about her, attracted as clouds always are to high mountain peaks, and before we left they had spread around her like a garment, hiding her shapeliness from view, all except the pearly top, from which the chill wind was now blowing the snow far out into the space around her.

One cannot tire of Fujiyama, for Fujiyama is Japan and Japan is Fujiyama. Her beauty is ever changing, and even the Japanese themselves who live out their lives in the neighborhood, will stop at their work now and then to gaze in silent homage at her fair form. Once at an inn in Suzukawa, where I passed the night, the last thing before the shutters were closed, my attention was called, for fear I had



FEEDING CARP IN A KYOTO GARDEN

By Herbert G. Ponting

not noticed it, to the dark outline of the night Fuji which blocked out a large triangular space in the starlit sky. But I had already seen it, I could do little else but look at it, and that same evening as the sunlight died I had stood on the banks of the river and watched the gorgeous transformation of light and color which passed over her as

The night serene and still
Fell o'er village, vale and hill.

The yellow, setting sun, low down on the horizon, made the unruffled waters of the Suzukawa river gleam like molten gold in the reflected light, and in the glowing depths Fuji's inverted cone appeared as in a magic mirror. The light was shining full upon her and, as I watched, the sun sank below the sea line and the ground on which I stood became enveloped in the gloom of approaching night. But Fuji still stood out in as strong light as before, and I observed the beautiful phenomenon of the line of shadow creeping gradually up her slopes as the sun sank lower and lower below the horizon. Higher and higher still crept the shadow, until only the delicate crest was left 12,000 feet above to hold for a few brief moments the amber light, and then as the shadow left the mountain the sunlight fell on nothing but the heavens above, tinting them with all the exquisite colors of the shells of Enoshima.

Quickly the twilight fell and then the night, and as darkness encompassed the earth, little glimmering stars appeared all around Fuji's lower slopes; these were the windows of the peasants' cottages, and where they stopped marked the limit above which there were no more habitations.

I must leave the many other beauties of the Hakone district, however, and hurry off to Kyoto, the entire journey to which town is replete with interesting features far

too numerous to speak of here. Kyoto was the old capital of Japan, and in all the realm there is not to be found its equal as a center for all the manifold beauties of nature, architecture and art. I saw the finest cloisonné of Japan at Y. Namikawa's in all stages of its manufacture and, at the homes of other artists, pieces of Satsuma ware on which years of labor were being spent.

There are temples enough in Kyoto to satisfy the most exacting, many of them magnificent old places, and camera studies to be found enough to occupy one for a lifetime. The great Buddhist and Shinto temples with their splendid gardens and ponds of gleaming carp, black, spotted and gold, which are fed by the priests; their wonderful architectural features and their exquisite furnishings are a paradise for either the camera or the canvas.

In Kyoto I saw a great wrestling tournament, the greatest of Japan, and to one who has often seen the famous wrestling matches at Grassmere in England, it was a wonderful exhibition of the marvelous skill of the Japanese in this art. The wrestlers are all men of large and muscular build, and some are of enormous girth, especially the champion.

The grappling is really "catch as catch can," and I several times saw one of the



AT THE SHRINE OF THE GREAT DIABUTSU

*From a stereograph by the author
Copyrighted, 1902, by C. H. Graves, Philadelphia*

contestants by a skilful movement, without the exercise of any apparent muscular exertion whatever, rush, at the outset, at his adversary and with a movement almost too quick for the eye to follow, throw him over his shoulders to the ground, the whole bout not lasting more than two seconds.

The Japanese have probably no equals in the world at this art, as by the exercise of a mysterious knowledge of quick moves and dodges called "jiu jutsu" they are able without effort to cause a man to break a bone or otherwise disable himself or even to lose his life in the encounter, and by this dangerous acquirement a puny man may easily overcome a powerful adversary. The use of this power, however, is very limited in the contests of the tournament, if indeed it is used at all in them, and it is only taught to men of the most undoubted moral character and is never abused.

Four times during my visit to Japan did I sail through the beautiful land-locked waters known as the Inland Sea, and each time under different conditions of weather. Once we were storm bound near Moji and at anchor for many hours while a fierce hurricane raged about us, and on another occasion we passed amongst the hundreds of miniature islands when the sea was without a ripple on its surface, and from the bow of the great German mail steamer one might look far down into the sunlit depths, and at times see scores of dolphins gamboling about or swimming before the ship.

That evening on the Inland Sea was almost too lovely to be real, it seemed like some delicious dream. The sea dotted with rugged islands clad with gnarled and twisted pine trees, and the white sails of fishing craft, merged into the sky in the hazy distance amidst all the beautiful opaline coloring of mother o' pearl, and as we glided along on the glassy water it was as if we sailed on a phantom ship into fairy-land, and as we watched we scarcely dared to speak for fear of breaking the spell and dispersing the enchanting beauty that filled the world around us.

At Nagasaki I left for China and turned my back with deepest regret on the charming land that to travel in is to love—Japan—the very name will ever be associated in my mind with all that is artistic, æsthetic and refined, with rippling rills and roaring rivers, with dancing cascades and thundering waterfalls, with snow-clad hills and rice-grown valleys, with beautiful legends and wondrous fairy tales, with goblins and hobgoblins, and with countless babies and marvelous faces, and if the day should come on which I may see those delightful shores again I shall welcome it with a heart-felt thrill of deepest, keenest joy.

Platinum Toning of Bromides

Professor R. Namias, writing in *Eder's Fahrbusch*, directs the bleaching of the well fixed and washed bromide in mercury chloride solution (5 to 10 grains per ounce), washing in water and treatment with a developer, preferably a weak metol formula. This gives a much stronger print, consisting of the metals mercury and silver. On placing in a platinum bath, the mercury is more or less completely replaced by platinum, and if the print is then too strong, it can be reduced to the right point with a clean reducer like cerium sulphate. If the whole of the silver is thus removed an image of pure platinum is said to remain. The platinum bath is: Potass chloroplatinite, 1 grain; oxalic acid, 10 grains; water, 2 ounces.—*Photogram.*

Some After Notes in Pinhole Photography

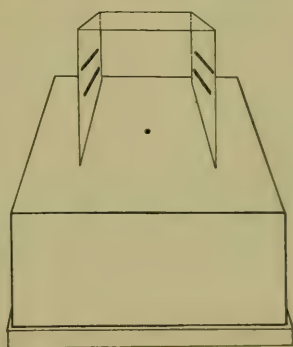
Portraiture, Copying and Enlarging Instantaneous Exposures

By DR. H. D'ARCY POWER

Copying has been referred to by other writers as a legitimate field for pinhole photography. I do not claim any advantage for it against the lens—but if a man has but a poor lens he can make better copies with a pinhole, for so long as the planes of subject, pinhole and plate are kept parallel no distortion is possible, nor is the time required excessive. If the sharpest possible copy is required it will be necessary to use the No. 5 hole (0.25 of a m. m.). If the copy be made at the window on a bright day, say when the Wynne meter colors in 15 seconds on a Seeds 26x plate, and a bellows draw of six inches, we have $5 \times 6 = f/30$, which would require a two-minute exposure, if the subject were of normal color such as a photograph not too deeply printed. A black and white print would only require a fourth of this time—30 seconds. I mention six inches as a convenient length for the bellows draw. If the copy is to be of the size of the original, the latter must be placed also six inches from the pinhole. If half the size, then at double the distance, or twelve inches. When the

original subject is unpleasantly harsh in its detail the copy may be reduced by using the larger sized pinholes, and this is a great advantage, not so with the lens. I have used the pinholes with quite the simplest and cheapest of all arrangements are a plain box, which to place the nega-

The following arrangement will answer perfectly for all a light-tight plain wooden



cover. It should be eight inches deep and of the dimensions of greatest enlargement, say 11 x 14; paint this inside with drop black, and put the pinhole—No. 5—in the center of the bottom. This is the camera box. Secondly procure a second box six inches deep and of the dimensions of your largest negative, say 5 x 7; remove the top and bottom, and cut two slots at each end two and four inches from the bottom. Now let us see how this simple apparatus is employed. Let us suppose we are to make an enlarged negative. We follow the usual procedure and make a contact transparency, then we place the dry plate on which the enlargement is to be made in the center of the cover of our camera box; place the box on the cover; put a piece of cardboard or other opaque substance over the pinhole and take the box out of doors in the best possible light (sunlight by preference). Set the wooden support over the pinhole so that the latter is exactly central. (This ought to have been done before using and the correct situation marked and maintained by nailing three wooden beads on the camera box.) Now place the transparency on the support, remove the cover from the pinhole and make the exposure. Where we shall place the transparency

antly harsh in its detail to any degree of softness pinholes, and this often is easily obtainable by the hole for making enlargitory results. It is the simplest method. The sole reason and a wooden support on top or transparency. The arrangement will be found ordinary purposes. Obtain box, with a light-tight

on the support depends on the enlargement we require. If we place it on the top, six inches from the pinhole (the pinhole being eight inches from plate) the enlargement will be one and one-half times. If we place it in the first slot, four inches from pinhole, we shall enlarge two diameters. If we place it in the second slot, two inches from pinhole, the magnification will be four diameters. To determine the exposure time we have the fact that the depth of camera is eight inches and the pinhole No. 5; this gives $f/40$. If the light time were 15 seconds and the plate a Seeds 26x (plate value 90), we should require three minutes exposure for a normal subject. In the matter of negatives a pretty dense negative is equal to a normal subject.

It will thus be seen that nothing can exceed in simplicity the making of pinhole enlargements. Like in copying, harsh originals may be softened by the use of larger holes. As a matter of fact, some softening takes place with the No. 5, due to reflection from the bore and possibly from diffraction. While I do not use this method personally in preference to the system of enlarging from solio prints which I described some months ago, I can commend the results it will yield. It is possible to use the apparatus for bromide enlargements, but with Eastman's ordinary the exposure is very prolonged, twenty minutes or more. With some of the rapid bromides made abroad I have no doubt but that it would work well.

Finally it is quite possible to use the pinhole with the electric light in an enlarging apparatus of the ordinary type. It is, however, slower than sunlight. The use of the pinhole in portraiture is limited solely by the question of exposure time. They have many advantages over the product of the lens, even when taken close to the camera they are free from distortion. Every part of head and body is equally in focus, and finally they are delightfully soft and yet well modeled. But the length of exposure is a serious difficulty. The factors concerned are light, bellows extension and size of pinhole. Let us consider them separately. First, as to light, it is impossible to work indoors except in a brilliantly lighted gallery. Out of doors the light time should not exceed thirty seconds, Wynne meter. The average light time on a bright day is about fifteen seconds. The bellows draw is determined by two factors, viz.: Size of picture required and possible distance of subject and camera. When the subject and the dry plate are equally distant from pinhole the image and object are equal in size, as the subject recedes the image diminishes proportionately.

Apply this to the taking of a bust and see how it works. Let us say we want this on a 5 x 7 plate, that is about one-fourth the natural size. The shorter the bellows draw the quicker the exposure. If we fix the draw at six inches we should have a quarter reduction, with the sitter two feet from the pinhole. This is an impossibly short distance for a lens to work at, but it goes with the pinhole. However, there is a limit. It would obviously be impossible to work at a distance of twelve inches from the subject, for which reason a half-sized head cannot be taken at a six-inch draw, but will need at least twelve inches, leaving the distance of pinhole to subject still at two feet. As this extension to twelve inches quadruples the exposure time it is plain that half and full-sized heads are only possible under quite exceptional circumstances. For these reasons the six-inch draw seems to be about the best working limit.

The question of size of pinhole is a question of taste. Those who want clearness and detail will use a No. 3 (0.5 m. m.). The lovers of considerable diffusion of focus will obtain their desire with No. 1 (1 m. m.), and the average educated taste

will find satisfaction in using No. 2 (0.75 m. m.). Now let us see how this will work out in the matter of exposure time. Take an out-door study (light 15 seconds to color paper), Seeds 26x plate, bellows draw six inches: Pinhole No. 1=6 seconds; pinhole No. 2=12 seconds; pinhole No. 3=24 seconds. As these normal times may be halved and a good negative still secured by careful development, it is clear that the exposure time is in no way prohibitory with a good sitter. A No. 1 pinhole at twelve inches draw would permit of a half-sized head in 24

seconds, which, though diffuse, yet by reason of its size, would be quite satisfactory. So far as I know the No. 1 pinhole has not been used or recommended by previous writers, but the image produced by it is quite as well, nay better, defined than many new-school men are in the habit of lauding. In pinhole photography the background comes of considerable importance. It is not be-erable import-possible, as with the lens, to throw it out of focus. It is necessary, therefore, to see that it harmonizes. Sometimes an added difficulty, at others a culty, at others a tage that the made to yield. Too little is made of the pictorial possibilities of strong foreground groups beautiful landscape settings such as have been the stock themes of many painters (Moore for example.) One reason for this neglect is the difficulty of getting figures and dis- tance into focus without using a very small stop, which means not only a long exposure, but photographic hard- ness of detail. With the pinhole this difficulty is not existent. Before I close I would say a word about snapshots. I do not know that the idea would ever have occurred to me had an accident not revealed their possibility. From the top window of my dwelling I was looking over San Francisco bathed in sunshine and a rather pretty cumulus cloud floating in a clear blue sky. I thought I would take it with a pinhole, and used the No. 3 (0.5 m. m.) for the purpose. The exposure was made by rapidly raising and lowering a piece of cardboard in front of the hole, the exposure certainly not exceeding a third of a second. When I developed the plate the cloud was *non est* from over exposure, but the houses of the neighborhood and distant city came out in ample detail. If this is possible with No. 3 over land, it is



PINHOLE PORTRAIT

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evident that using No. 2 over water would permit of pictures in a tenth of a second.

I have skimmed over a field that is comparatively new to me, and in which I feel certain that serious work of the first importance is yet to be done. While this ends my present communications, it is but the commencement of further studies, in which I hope some of my readers may participate.

Notes in Focal Plane Shutter Work

By WALTER KILBEY, *in the Photographic News*

Do not be too ambitious at commencement. Make your first attempts on subjects requiring exposures of not less than about 1-200 of a second, such as children playing or ordinary trotting (horse and trap). Suppose, for instance, you make your first trial upon the latter. You will do best by getting on the lighted side of your subject and taking up a position—say a street corner if in town—where a flood of light is playing on the spot where you intend your horse and trap to be when you make the exposure. Now judge or pace off about seven yards at an angle of forty-five degrees or less, and set the focusing pointer accordingly. With the shutter set at 1-200 and using $f/6$ or $f/7$ you should be about right. When you have made everything ready put your pipe on, if you are a smoker, and wait for your subject to turn up. When it does, you have simply to point your camera to the spot focused upon and keep your eye on your finder, then when the image is passing over the spot decided upon release your shutter. If you are anxious to try the shutter at a much higher speed, set it at 1-600 and make an exposure or two on similar objects but broadside on—*i. e.*, when the object is traveling at right angles to your lens. I am assuming you are using a hand camera; if so, I would suggest you invest in a good view finder of the brilliant type. Such will be found very useful to a beginner in this particular branch of Photography. A small circular slow-working level is also a very useful article. The best place to fix it would be in close proximity to the finder, so that both level and finder can be seen at the same time. After you have gained experience in this kind of work you will find, for some subjects, that it will be of greater advantage if you can disregard your finder at the moment of exposure. For example, suppose you are photographing men or horses jumping a hurdle, you can roughly compose on the finder the lines, etc., that you wish to surround the principal object, then holding your camera very firm and steady you can watch your object from afar off. When it has reached within, say, fifty yards of the jump, just take a quick glance in your finder, lift your eyes, and when the man or horse is in the position or attitude you wish, press the button. By this method of watching the subject with the eyes you will be able to more easily illustrate any particular attitude or part of a jump than would be possible by watching the image in any finder—full-sized one included.





THE PACIFIC

By F. W. Kelsey

A Wrinkle in Making Sunsets

By FAYETTE J. CLUTE

The beginner at this work has, as a rule, something to learn. He must learn to discriminate between a sunset sky that charms by its color and one that may be much less satisfactory to the eye while lending itself more completely to a pleasing translation into black and white. He should buy a cheap pair of blue glasses and study the ever-changing effects of a few sunset skies before essaying any great amount of plate exposing. He will be the gainer in the end. When he does come to make exposures on this class of subjects he will find the knowledge gained through these blue-tinted glasses of the greatest value. Even after this preliminary course of study, the use of a blue-glass cap over the front of the lens will prove of advantage in selecting the best of a series of gradually changing effects. When a composition that is thought satisfactory presents itself while observing the image on the ground glass, one has but to remove the blue-glass cap, insert the holder and make the exposure. This same blue-glass cap is worth the expenditure of a small sum in having it constructed in a neat, substantial manner. Its value in landscape work is fully as great as in the case of sunsets and the like.

Practical Color Photography*

By ARTHUR E. TALBOYS

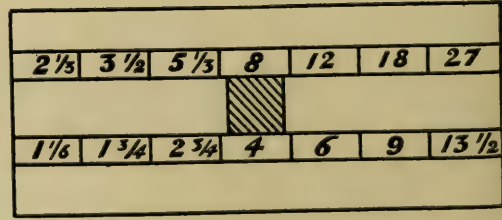
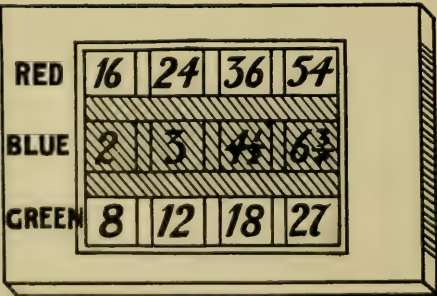
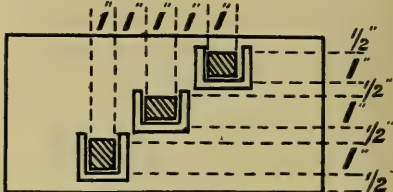
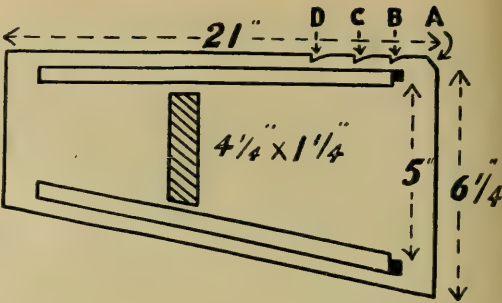
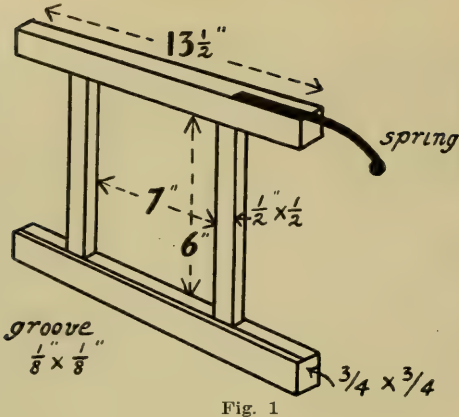
A course of instruction in making transparencies in color by the method of stained gelatine films here commences from the pen of a very practical worker. Fortunately, the bogie of great expense need not now deter any reader from taking up this absorbing branch of work. A reliable set of filters may be purchased for a small sum, and a few dyes and other materials complete the outfit. The drudgery of the process, unluckily, is in the first step—adjusting the ratio of exposures; but the reader is recommended to practice the method prescribed in this first article, until he is familiar with it. Succeeding issues of CAMERA CRAFT will guide him in the development and printing of the negatives, the staining and mounting of the positives, and other incidents of practice necessary to place the process within his grasp.—EDITOR.

In theory the process of which I shall here treat is very simple. Color-sensation negatives are made, through red, blue and green filters, from which positives are printed in celluloid film and developed carbon fashion, so that a positive gelatine relief is made from each. These positives are stained, each with the complimentary of the taking screens, viz., blue, yellow and pink, and these three monochromes cemented together in register. I hope to convince the reader that with care and patience the process will be simple in practice. Presuming that he has purchased a set of three-color filters, the first point he must ascertain is the ratio of exposures for the three negatives.

1—ASCERTAINING THE RATIO OF EXPOSURES

One of the most tedious operations in the three-color process of Photography, unless the worker be provided with an expensive plate-tester, is that of ascertaining the ratio of exposures through the three-color filters for every fresh batch of plates employed. As these specially prepared plates do not usually keep very long in good condition, and no two batches are of equal color sensitiveness, this operation becomes necessary more often than might be desired. By the usual method of exposing a plate behind each filter to a piece of crumpled white blotting paper until three negatives of equal density are obtained, it is not unusual for six or eight and sometimes a dozen plates to be exposed before one has succeeded. By the method I am about to describe, the correct ratio can be found with certainty in a very short time and only requires one of the plates, the color sensitiveness of which the worker wishes to determine. In saying this I refer only to those plates that are sensitive to all parts of the spectrum, such as Cadett's spectrum, Dr. Miethe's perchromo, Seeds' ortho and Cramer's isochromatic. If one is working the Lumière or any other process in which three distinctly different kinds of plates are used, instead of one kind as in the Sanger Shepherd process, then of course three plates must be used by this or any other method to give the ratio.

It must be understood that when plates are tested by this method, instead of attaching the filters to the lens or immediately before the photographic plate in the



camera as is usual, they are placed some distance before the lens and focused sharply in the camera, appearing on the screen as small squares. Of course no light must exist between the filters and the photographic plate but that which passes through the filters, therefore some sort of arrangement is necessary to exclude all other light. Several simple pieces of apparatus for daylight enlarging or reducing have been described in CAMERA CRAFT at different times that would answer this purpose very well, though I prefer to do it in the darkroom. In either case the apparatus shown in the photograph (fig. 5) will be required. This was made for $1\frac{5}{8}$ -inch square filters, but with a slight alteration to the filter carrier, sizes up to 4 inches can be used (see fig. 3). Fig. 1 is the frame, which is made of four pieces of wood, two of which are $13 \times \frac{3}{4} \times \frac{3}{4}$ inches and two $6 \times \frac{1}{2} \times \frac{1}{2}$ inches. On the inside of the longer pieces and $\frac{1}{8}$ inch from the front edge are grooves $\frac{1}{8}$ inch deep and $\frac{1}{8}$ inch across running from end to end. The two short pieces are fixed to these so as to form a rectangle, 7×6 inches inside measurement. On the top piece is screwed an end of an old clock spring 4 inches long and projecting 2 inches beyond the end of frame. The shutter (fig. 2) is made of picture frame backing $\frac{1}{8}$ inch thick and cut to size $21 \times 6\frac{1}{4}$ inches. A rectangular hole is cut in the middle $4\frac{1}{4} \times 1\frac{1}{4}$ inches. Two long strips of rabbeting are glued on the front sufficient distance apart to allow the filter carrier to slide between them. Three notches, B, C, D, $\frac{1}{8}$ inch deep and $1\frac{1}{2}$ inch apart—B being $1\frac{1}{2}$ inch from the end A—are cut in the right-hand top edge.

The filter carrier (fig. 4) is made of similar wood 15×5 inches. Exactly in the middle, a hole an inch square is cut, one inch from this on the right, and half an inch from top edge is cut another, same size; another also is cut one inch from the middle hole on the left and half inch from the bottom edge. Strips of wood and cardboard are glued on three sides of each hole so that the filters can be slipped down one over each hole. The photograph (fig. 5) shows one filter already in position and



Fig. 5

another being slipped down into position. It will be seen that the filter carrier shown in fig. 5 as C, slides along the rabbeting on the shutter B, and the shutter slides in the grooves of the frame A. The spring S is so bent that when the shutter slides in the frame it clicks into the notches N of the shutter. The edges of the hole in the shutter should be slightly beveled on both sides, so that it will not catch against the upright pieces of the frame. It would be a good plan to fix a fairly thick strip of wood on the back left-half end of the shutter and another strip on the front right-hand end. This would prevent it from warping without interfering with its working. All should be well sandpapered and dead-blackened.

If the darkroom is to be used, the window should be blocked up excepting a space 7 x 6 inches, over which, inside, is fixed the frame. When a plate is about to be tested, a sheet of clean white blotting paper, or better, a sheet of platinum paper exposed and developed to a grey of medium depth, is pinned down evenly on a drawing board and placed at an angle outside the window so as to reflect the light falling upon it from the sky through the dark-room window. It must be evenly lighted so should not be placed too near the window.

The test should be made when the light is fairly constant, otherwise failure is sure to result. Therefore, make the test midday under a clear sky, but take care that the sun does not shine on either the window or paper. Before commencing the exposures, it must be decided whether the ratio is required for indoors or outside work. If for indoors work, the dark-room window should be closed and the exposures made through the glass, or a plate of window glass similar to that under which the objects are to be photographed later on, may be placed anywhere between the paper and the plate to be tested. For outdoors work no other glass but that of the filters and lens should remain between the source of light and the plate. The reason for this is that ordinary window glass cuts off considerably more of the blue rays in proportion to the red and green, and therefore what is correct ratio for indoors work is incorrect for outdoors, and vice versa. To commence our test, then, fix up the camera and focus the edges of the frame sharply so as to come just on the edges of the quarter-plate. Working from the left, slide the shutter along the frame until the spring just touches its end A. Now slip the filters into the carrier—the red at top, blue next and the green at bottom. Push the carrier along the shutter until the red filter comes over the rectangular hole of shutter. Prepare to expose the plate to be tested in the camera. Uncap the lens, and give an exposure of sixteen seconds. This over, push the shutter along until the spring clicks into the first notch B from the end. Expose for twenty-four seconds. Then slide the shutter along until the second notch C is reached; expose for thirty-six seconds. Slide the shutter along further until the third notch D is reached, and expose for fifty-four seconds. This completes the exposures to the red filter. Now slide the shutter back to the first position with the spring just touching its end A. Bring the green filter over the hole of shutter and repeat the above operations, but with exposures of eight, twelve, eighteen and twenty-seven seconds respectively. Return the shutter again to the first position with blue filter over the hole of shutter, and give exposures of two, three, four and a half and six and three-quarter seconds. Now, as it is very difficult to give an exposure of exactly two seconds, and these exposures must be exact, it is better to multiply these exposures for the blue only by four and use a stop of double the number of the one used for the red and green. Suppose the red and green were exposed at $f/16$, then the blue should be exposed at $f/32$. Multiplying the above numbers 2, 3, $4\frac{1}{2}$, $6\frac{3}{4}$ by 4, this would give 8, 12, 18 and 27, which are the same as for the green.

The ruby lamp should be used during the above operations to enable one to see the watch and read off the exposures. Develop the plate in a slightly restrained developer, fix, and then wash for a few minutes. Use plenty of developer, and directly the plate is immersed go over it with a tuft of cotton wool previously soaked in the solution. I use rodinal one part, water twenty parts, with the addition of two or three drops of a 10 per cent solution of potassium bromide.

On the plate are now twelve squares of densities which must be compared. Hold the plate over a sheet of white paper with the film side away from the worker and the pale squares on the left. The top row of four squares are the exposures to the red filter.

The next row, the blue, and the bottom row, the green. In the red row, one square will be seen of equal density to one in the blue row, also to one square of the green row. These must be noted, and the ratio of exposures given these three must now be found. To do this automatically I have arranged a card on which the exposures are marked in order, and from which they should be read when exposing. Fig. 7 shows how the card is made. Two pieces of card of equal size are separated by two strips so that another card can slide between them.

In the figure the shaded portion of the top card is cut away, the numbers in this shaded portion being on the bottom card. The sliding card (fig. 8) is marked as shown, and the shaded square is also cut from this so as to show—when sliding

RED	16	24	36	54
BLUE	2	3	4½	6¾
GREEN	8	12	18	22

Fig. 9

between the double card—the numbers on the bottom card singly through the square hole. With the aid of this double card the exposures given the three squares of equal densities can be easily seen. Let us suppose them to be the square in the red row which received thirty-six seconds, that in the green row which received twelve seconds, and that in the blue row which received eight seconds, of a stop double the number of that used for the red and green. With the same stop number as used for the red and green it would be two seconds; therefore, we will consider it as such.

Now push the sliding card between the double card so that the 2 on the bottom card shows through the hole. The number appearing through this hole is always taken as the unit when finding the ratio. On the sliding card immediately below the figures 36 of the red row will be seen the figures 18, and above the 12 of the green row the figure six. Thus we have our ratio 1, 6, 18, for the blue, green and red respectively. If a result similar to that shown in fig. 9 should ever occur where there are not three squares of equal density, we need not go to the trouble of exposing another plate, for the ratio can be found as accurately with this as when there are three equal densities.

It may have been noticed that these exposures are arranged in each row so that

the second is half as much again as the first, the third half as much again as the second, and the fourth half as much again as the third.

We see in fig. 9 that the blue square that received two seconds is of equal density to the green one that received twelve seconds, the red that received fifty-four seconds being equal to the green eight seconds. Now, had the green 8 received half as much exposure again it would be equal in density to the green 12, which is next to it on the right, and which is already equal to the blue 2. The red 54 being equal to the green 8, we see that had the red also received half as much exposure again it would be equal to the green 12 and also the blue 2.

Here we have the blue 2, the green 12 and the red 81 ($54 + 27$) of equal density. Divide the three numbers by the blue 2 and we get our ratio 1, 6, $40\frac{1}{2}$, which would be correct for this plate of densities. A plate similar to this would perhaps never result, but should it do so, we are now prepared to deal with it.

During October I have found the exposures marked on the card working at $f/16$ for red and green, and $f/32$ for blue, multiplying by 4, gave plates of densities of good contrasts in each row. In the summer the above stop numbers should be doubled, keeping the exposures the same. As it is much easier to judge the squares of densities when pale, development should be stopped as soon as the third square in each row has made its appearance. If the worker is ever in doubt as to which squares are equal, he can easily decide by printing a piece of printing-out paper under the plate for a few seconds, and noting those that appear at the same time. Sometimes it may appear that one square is a little too dense and the next one too pale to compare with the others; it is then best to take the numbers between these two. In fig. 6 is shown the arrangements when the box, daylight enlarger or reducer, is used. A is the paper on drawing-board; B, the filter apparatus; D, the box or whatever may be used, and C a flap shutter inside the box, working from outside. In most cases the latter would not be necessary, as most amateurs' outfit include a shutter of some sort. A mark should be made on the shutter of filter apparatus over the middle of the rectangle hole, and also three, one over each of the filters on the filter carrier, so that it can be seen when the filters are over the hole of the shutter. This is not needed in the case of the darkroom, as it can be easily seen when they are in proper position. The whole apparatus should be arranged outside in the shade when testing. If the ratio is required for indoor work, a sheet of glass may be placed as before mentioned.

I think the advantages of this method over the ordinary will have by now become evident to the reader. It is plain that it admits of this otherwise tedious operation being done in a minimum of time, at a minimum cost, and with a minimum of trouble.

Besides the use I have mentioned for this piece of apparatus, there are a great many others to which it can be applied. With it we can determine the speed of our plates, latitude, efficiency of backing, action of developers, intensifiers and reducers, etc., etc. Before concluding, there is one other method I should like to explain by which the ratio can be found requiring three plates but only ordinary apparatus. The sheet of paper may be placed anywhere where it would be evenly illuminated. Focus it on the screen of camera, insert the red filter in its usual place, push in the slide containing one of the plates to be tested, and draw the shutter sufficiently to expose one inch of the plate, giving an exposure of eighteen seconds. Draw shutter another inch, and expose for twelve seconds; draw shutter again one inch, expose for

eight seconds; draw it another inch, and expose sixteen seconds. Change the plate for another, insert green filter, and repeat the same operations as for the red with exposures of nine, six, four and eight seconds. Change plate again, and expose to blue filter for two and a quarter, one and a half, one and two seconds, or multiply by 4, using a stop of double number as for red and green. These plates will now have received exactly the same exposures and in the same order as those on our card, and can be compared, and the ratio found as in the method previously described.

To prevent confusing the plates write on the film side of each, before exposing, the name of color of the filter to which it is to be exposed. This would be visible after development and save trouble.

In the early part of this article it was stated that platinum paper was better than blotting paper. For reasons which cannot be explained here it is so, and should be used whenever possible.

Art in Schools

By KATHERINE LOUISE SMITH, *in the Craftsman*

There are few healthier indications of public progress than the efforts to increase the attractiveness of our public schools by filling them with good works of art. This work has been prosecuted in different ways in various towns and cities. Much has been done in this direction in England, and, in this country interest has found fruit in exhibitions, notably those of Boston, New York, Philadelphia and Brooklyn. In other cities and small towns considerable progress has been made. The surroundings of the daily life of American young people are so wholly inartistic, except in so far as fine art in literature appeals to them, that this new movement is a notable one. No more important work in introducing art into the general life of Americans has been undertaken, for it means bringing it directly before the children, many of whom are without artistic home influences.

Early in 1896 the Public School Art League and Art Students' Association and Educational Workers of Boston began to agitate the necessity of artistic decoration for schoolhouses. In pursuance of this idea they decorated rooms in that city, and also in Salem, Malden, Medford and Brookline. At about the same time, a similar movement was begun in New York by the Public Education Association. The chief aim of the committee appointed by the Association was to transform the barren and repellent schoolroom into an attractive room which should cheer the eyes and spirits of teachers and pupils. One of the rooms in the boys' grammar school was devoted to mediæval and Renaissance art, including reproductions of buildings, statues and paintings. One was given to literature, as illustrated by portraits and pictures of the dwellings of famous writers and of scenes which they have immortalized. One was hung with European views, varied by copies of famous monuments and pictures in noted galleries. Another with Asiatic and African scenes and works of art, while still another showed American scenery in pastoral and picturesque aspects including, of course, Niagara Falls and the Natural Bridge of Virginia. In each room an explanatory catalogue was hung.

All this was done carefully and critically, for the very enthusiasm as to art in schools has in it an element of danger. Every community which attempts to accom-

plish anything in the way of art education in the schools must realize that comparatively few people know the difference between the true and the false in art. It is imperative that nothing should be hung on the wall of a public school without having been subjected to the highest art criticism of the community in which the school is situated. The confusion of the art objects in the houses of even refined people demonstrates how superficial our art education as a nation has been. It was to raise this art standard and to bring side by side the best subjects of eight or more of the greatest art producers of Europe and America, with a view to arousing interest in art decoration in schools and homes, that for a few years past a collection of pictures has been exhibited in a number of the larger cities of the Middle and Northwestern States. This collection consists of over two hundred carefully selected subjects of proper size and suitably framed, and on their first journey they took in a country reaching as far east as Springfield, Mass., and the State Library at Albany, N. Y. Later, to the framed pictures were added one thousand neatly mounted unframed pictures of the Berlin, Munich, Soule, Foster Brothers, Elson, Solderholz and Detroit Protochrome Companies, and a selection of some four thousand subjects in unmounted cabinet and medium photographs to aid in selecting subjects. In several cities a representative selection of casts were added. This exhibit has been given under the patronage of school boards, art institutions and art societies, and the finances have been left wholly in the hands of the school boards and patrons. A series of talks by local artists added to the value of the exhibits. In this way it has been hoped that a new impulse will be given to art study and the decoration of the public schools, and that public taste for art will be elevated, for it must be borne in mind that it is better to have bare walls in a schoolroom than poor pictures, and there can be no more disastrous form of education than a collection of pictures having no relation to one another, and no influence in the education of taste.

The good that can be done, however, must not blind us to the fact that we are dealing with elementary materials. The untrained mind can hardly appreciate a picture with whose theme and art it is unfamiliar. The object in the decoration is to increase an interest in art and an appreciation of it, and we must not soar above the comprehension of the children.

In a sense all subjects are suitable for school-room decoration, but that it is well to have limitations is shown in a memorandum sent out with a list of photographs suggested for use in the schools by the Regents of the State of New York. It is pointed out that religious expression is to be guardedly used, because of the likelihood of offense to persons of a different way of thinking; that the nude in art is to be avoided, because, again, of the peculiar ideas of some persons in this respect, and that subjects tending to dignify or to ridicule particular doctrines are to be avoided. "If this is carried out, it will be readily seen that the elimination of religious legend makes it hard to choose pictures and the prohibition of the nude bars almost any chance of showing sculpture rightly."

Patriotic, historical, pictures of places, photographs of famous people, architecture, prints, sculpture and plaster casts are certainly admissible. The simplest range of subjects would appear to be that of a patriotic nature. Christopher Columbus and the great names in American history are familiar to all, and pictures of Washington and Lincoln pave the way for more pretentious and artistic attempts. It has even been suggested that such pictures in the schoolrooms would foster the formation of patriotic ancestral organizations which are now in vogue. Next in elementary

value are pictures of historic events. A picture of Lincoln signing the Emancipation Proclamation appeals to all Americans, educated or uneducated, and so, in a greater or less degree, do illustrations of great events in the history of the world at large. Questions can be asked about these pictures which the teacher will feel called upon to explain.

Portraits of authors, such as Longfellow, Holmes, etc., form another important class and an extended list may be chosen in this field. Photographs of familiar places may be supplemented by pictures of notable places the world over. Art is especially suited to history and pupils should connect the cities with art galleries. Geography can be made of living interest in the hands of a teacher interested in the subject. As long as twenty years ago this branch was taught in the Worcester, Mass., Normal School by means of lantern slides. The principal of one of the grammar schools in the same place has been doing a similar work for ten years. For example, he has a series of pictures which he has taken, showing the various points of interest in Concord, Mass. These pictures are shown and the connection of the place with the Revolution and the town's distinguished residents are mentioned and talked about. Interest is thus excited and an endeavor has been made to introduce this method of teaching into other schools. In No. II of Papers from the Physical Geography Laboratory of Harvard University is a list of geographical lantern slides, prepared for use in the Cambridge public schools by Professor William M. Davis of Harvard University, who has of late years been much interested in this method of instruction.

These topics may be open to the objection of not being strictly artistic, but they accustom the child to seeing pictures and talking of them: beside being of an educational value. With sculpture we have a subject that can be illustrated both in photographs and in actual form by casts. That these last are less common than photographs gives them a special interest. If extensive decorations are desired in a Greek room, there could be photographs of the Acropolis with casts of Hermes and the Venus of Milo. The bas-reliefs of Luca della Robbia and of Donatello would be appropriate to a room devoted to art of the Renaissance and the endless series of the Virgin and Child, of angels and cherubs could decorate another room. A legend of twenty words or so can be painted on a card and the result is a frame within which all that is needed would be told of an important work of art. What child is not delighted with pictures? The children should become as familiar with the masterpieces of painting as they do the gems of poetry. Photographs can, when means are limited, be sent from room to room in the school to accompany talks on artists and their work, and teachers can plan courses of study. With so many text-books there need be no hesitation where to begin. To Mr. Farrar's "Art Topics" can be added "History of Painting," by J. C. Van Dyke; "Handbooks of Painting," by Kugler, and Mrs. Jamieson's and Mrs. Clement's works.

In selecting photographs not alone the original merit of the painting, but also the fitness of the photograph must be considered. The photographs must be attractive and impressive. Realizing this, the New York State Board of Regents has distributed carbon prints, that the dealing of the artist with the subject can be pointed out to beginners, and the Public School Art League of Worcester, Mass., has lately purchased objects to be used in decorating the school-room walls. It is one of the first conditions in all these movements that the work of art shall be as far as possible perfect.

CAMERA CRAFT

ISSUED MONTHLY BY

THE CAMERA CRAFT PUBLISHING COMPANY

114 GEARY STREET, SAN FRANCISCO

Edited by CARL E. ACKERMAN

VOL. VI

SAN FRANCISCO, CALIFORNIA, JANUARY, 1903

No. 3

More Funds for the University

President Benjamin Ide Wheeler of the University of California, has called attention to the fact that the University is in need of funds with which to carry on the work outlined by the Board of Regents. This is a matter that vitally concerns every Californian, and the Legislature should be promptly urged to take action looking to an increased appropriation.

The enrollment of the University is larger than that of any other university in the United States, with the exception of Harvard. This remarkable showing in a state far removed from populous centers is indicative of the high order of the work at the University and a tribute to Mrs. Phoebe A. Hearst, whose benefactions have done so much to place the institution upon its present high plane.

Now that the University is in need of funds to keep pace with its enlarged scope and greater capacity, let every Californian see that the Legislature is impressed with the necessity for immediate action.

The University is California's proudest possession and nothing should be done to retard its progress.

Minneapolis in Line

The Minneapolis Camera Club, in connection with the Minneapolis Society of Fine Arts, announces a Photographic Exhibition from February 4th to 15th. Although the time is limited we would urge our readers to support this first exhibition. For the guidance of those who have not received a copy of the rules and regulations we are reproducing them on another page. Do not wait to procure labels and entry forms if it involves a delay, but write the title on the back of each picture with your name and address and send a list of the pictures under separate cover.

Mr. C. F. Potter, editor of *Western Camera Notes*, is in charge of the Publicity Committee and will furnish all needed information.

The Right of Privacy

Congressman Fitzgerald of New York, has just introduced a bill making it illegal for any person engaged in trade to use for advertising purposes the name or picture of any living person without first having obtained the consent in writing of the person. A maximum penalty of one year in prison and a one thousand dollar fine is provided in the bill.

Mr. Fitzgerald said that his action in introducing the bill was caused in part by the recent decision of the New York Court of Appeals in the famous "right of

privacy" case (CAMERA CRAFT, pp. 125, vol. V), in which Miss Abigail M. Roberson sought to restrain the unauthorized use of her picture in a flour advertisement. The decision was unfavorable, it being practically determined that if the picture were libelous its use could be restrained, but the mere fact that the picture was a true likeness and its use unauthorized afforded no ground for redress.

This measure, if passed, will have a far-reaching effect upon the growing class of advertisers who use photographic illustrations and its progress will be watched with interest by photographers.

Suggestion in Advertising

Mahin's Magazine, one of the foremost advertising journals in the country, extracts the following from a speech delivered by Lorin F. Deland before the Sphinx Club, forcibly illustrating the power of suggestion in advertising:

Take the simplest illustration of this relating of one thing to another in business. Let me tell you the story of two bootblacks. You will admit that we can scarcely go lower in the business scale. The two boys of about the same age, I found standing, one Saturday afternoon at 4 o'clock, on opposite sides of a crowded thoroughfare. So far as I could judge, there was no preference between the different sides of the street. The bootblacks, standing on the curbstone, solicited the passersby to stop and have a shine. Each boy had one "call," which he repeated at regular intervals. The two solicitations were entirely different, but each was composed of four words. They never varied them. Yet one of these boys, by the peculiar wording of his solicitation, secured twice as much business as the other boy, so far as I was able to judge, and I watched them a long time. The cry of the first boy was "Shine your boots here." It announced the simple fact that he was prepared to shine their boots. The cry of the second boy was "Get your Sunday shine." It was then 4 o'clock Saturday afternoon. This second boy employed imagination. He related one attraction to another; he joined facts together; his four simple words told all that the first boy said and a great deal more. It conveyed the information, not simply that he was there to shine shoes, but that tomorrow was Sunday; that from present appearances it was likely to be a pleasant day; that he, as a bootblack, realized that they would need an extra good shine; and, somehow, the sentence had in it a gentle reminder that any self-respecting Christian would wish his shoes shined before he repaired to the sanctuary. You may call it an accident that this boy secured twice the business of the other, but I have seen too many of such experiences to think of them as accidental.

This sound reasoning should bring home to every photographer who advertises the advantage of using suggestion in advertising. While a simple card:

SMITH, PHOTOGRAHER

is dignified and announces, as did the first bootblack, the fact that Smith is prepared to make photographs, how much more will be accomplished by calling the attention of the public to a new and interesting line of pictures at the holiday season or by announcing the fact that "pictures of babies are a specialty at Smith's."



LANDSCAPE
AFTER A JAPANESE PRINT
by ALVIN LANGDON COBURN

Copying

R. T. PRETZL, in *British Journal of Photography*

The most useful type of all lenses for copying is the anastigmat, which term includes all the newer lenses, which, with a large aperture, possess a flat field. Of the older type of lenses, the old Ross portable symmetrical is one of the best, as it possesses an unusually flat field. As regards the focus of the lens, there is not much to be said, though personally I prefer to use one of as long a focus as possible, as the illumination at the corners is far better than with an extremely short focus lens; the only case in which a long focus is sometimes objectionable is when copying full size, when the necessary extension of camera bellows becomes sometimes too great.

It saves a lot of trouble, if one, before starting work, calculates out the conjugate foci for the lens that is going to be used. In every copy of the "British Journal Almanac" will be found the necessary table giving the conjugate foci for reduction, but it may not do any harm to give the well-known rule. Divide the longer side of the subject by the longer side of the desired reduction, and the result will be the times of reduction; to this add one and multiply by the focus of the lens; the result is the distance between the lens and subject. To find the lesser conjugate focus, or the necessary extension of camera, divide the greater conjugate focus by the times of reduction.

It may happen that only one camera is available, but if there is a choice one of the old-fashioned square bellows type, focusing at the back is to be preferred to the front focusing. In all cases the focusing screen should be ruled with parallel lines in both directions, and I have found it a great convenience to rule these lines at intervals of one inch, and mark also the half and quarter inches by short lines, and further, to commence the numbering of these lines from the center of the focusing screen, so that if it is required to reduce the copy to a given size one can easily see the measure on the focusing screen.

Above all things, for really critical sharpness, it is highly desirable to cement two microscopic covering glasses to the ground glass, one at the center and the other in one corner of the screen. It is necessary to first mark the ground glass with a cross in lead

pencil and then, if the focusing magnifier is set so that this is in focus, one can be quite sure that the image is in focus on the plane of the ground glass. At the risk of telling an oft-told tale, the following is my method of cementing these glasses down: The focusing screen is removed entirely from the back and warmed over gas or in the oven till hot, then a good-sized drop of Canada balsam is placed in position, the cover glass dropped on to it, and then gently pressed down with a wine cork; if the balsam does not spread to the edge of the cover glass the whole is put into the oven and heated still further and again pressed down. Any balsam exuded should be wiped off, when quite set, with a rag wetted with spirit.

The ideal process for the reproduction of black and white or line work is wet collodion, but equally good results can be obtained on dry plates, when you know how to do it. The only plate that is suitable for this class of work is the slow photo-mechanical plate. Sometimes it happens that for lecture purposes it is required to reduce a diagram to the regulation lantern size, then one can use any of the commercial lantern plates for black tones with equally good results as the photo-mechanical plate.

There are two distinct methods of working, the one to use as large a lens aperture as possible, and develop as long as possible without any deposit showing in the lines; the other to use a small aperture, a blue screen, and develop till extreme density is obtained, regardless of the lines, and then reduce with Howard Farmer's reducer. Personally, I prefer the former method, and rarely fail to obtain full density with bare glass.

The best developer for this work is undoubtedly one suggested by Lumiere, which is without alkali and bromide, and gives extreme density with correct exposure. The formula is:

Hydroquinone	8 grains
Sodium sulphite	80 grains
Formalin	10 grains
Distilled water to	1 ounce

Should it happen that after fixing it is found that there is not quite enough density—and this only occurs with incorrect exposure—it is extremely easy to intensify, and for pref-

erence with the potassio-silver cyanide formulae.

Pencil drawings sometimes give trouble by a deposit in the lines, though I have found it advantageous to disregard this whilst developing and then reduce. A few months back I believe that at the Photographic Club Mr. A. Mackie suggested placing a piece of fine ground glass over the pencil drawing and copying through this, as it made the penciling photograph cleaner. This, however, I have not tried.

Blue or ferro-prussiate prints sometimes give a lot of trouble, and the best method of working I have found is to use a slow isochromatic plate and a yellow screen, this being sufficiently deep to make the blue print, when examined visually, look a deep dirty green.

Of all troublesome things to copy, miniatures, or other pictures from which one must not remove the convex glasses with which they are covered, are the worst. It seems that, light them how one will, there is sure to be a reflection. I have got over this trouble to a great extent by hanging tissue paper around the miniature; in fact, placing the same at the bottom of a tunnel of tissue paper; this softens the reflections a good deal. Of course the proper thing to use would be a Nicol prism, but these of reasonable size are not to be picked up every day.

For copying ordinary photographic prints a plate of medium rapidity should be used. Frequently faded prints are brought to be copied, and then we must have recourse to a blue screen. Very pale blue glass may be obtained, but it is easier to make a screen by staining a plate, as will be described hereafter, with methylene blue; only a very pale tint is wanted, and the depth of the screen can be easily varied if aniline dyes are used.

It is almost unnecessary to point out the necessity of insuring the even lighting of any subject to be copied. In a studio this is not difficult, but it is far more difficult in a private house, and it will frequently be found more advantageous to work out of doors. When we come to copy colored objects, the question of the illuminant is far more important, and it may be considered as an axiom that the more brilliant the illumination the better will be the rendering of the colors, and therefore sunlight is to be chosen, if possible. For old masters, or those old paintings which have become mellowed by time into rich deep

browns, sunlight is the only illuminant which will give a satisfactory rendering of the same, assuming, of course, that arc lamps are not to hand, as they usually are not in the majority of cases. For small pictures magnesium ribbon may be used, but for large and deep toned pictures the quantity required is considerable. For small pictures, whether in oil or water color, if of the modern schools, and thus brilliant in coloring, successful work may be done with two oil lamps or incandescent gas burners, placed one on each side of the picture, with a dark shade placed on that side of the lights next the camera. For such work I use the largest sheet of bristol board folded in half, one side being left white to act as a reflector, the other being covered with black needle paper, so as not to reflect light into the lens. If lights are used in this way, whether oil, gas or magnesium, they must be placed one on each side of the picture, and as near as possible so as not to be included by the lens; if placed by the side of the lens, far more reflections are caused.

Of course one of the most important questions with regard to the copying of colored subjects is the question of plates, and for the best rendering the so-called panchromatic plates are the best; these require rather careful handling in the darkroom, as most of the ordinary dark-room media will fog them.

Next to the plates comes the question of the screens for use with the same. Considerable diversity of opinion exists as to the best place for the screen, but if of optically worked glass it is not of much moment, nor is this important if very thin white patent plate be used, but focusing must be effected with the screen in position. A very convenient way of using the screen is in contact with the plate in the dark slide; if this is done, of course allowance must be made for this in focusing. It can also be placed in the camera back, and not in contact with the plate. If this plan is adopted the simplest way to prepare the screens is to use a useless negative, and remove the silver image by means of hypo and ferri-cyanide. It is necessary, of course, to choose a negative on a piece of good glass.

If glass is to be coated with gelatine, a 10 per cent solution should be made, and it is advisable to use a good emulsion gelatine, such as Heinrich's, Drescher's, or Stoess'; it is as well to add a little carbolic acid, xylol, or thymol to the solution to prevent it from spotting whilst drying. Fifteen minims

should be allowed to each square inch, and the solution should be about 100 degrees Fahr. for coating. There is no difficulty in coating this quantity, proceeding just as with collodion. It is important to level the glasses for setting, and this can be readily done by placing on a larger slab, which has been leveled by three wedges. The gelatine coating must be allowed to dry completely before staining.

The stains to use may practically be considered as confined to the yellow aniline dyes, and brilliant yellow, uranine, naphthol yellow, auramine green, metanil yellow, acridine yellow, and possibly aurantia, may be chosen from; brilliant yellow will generally be sufficient for all ordinary work if a little erythrosine be obtained. It is immaterial what strength the solutions are, but 1 per cent is convenient.

The main purpose of the screens is, as is well known, merely to cut the action of the blues, and therefore the deeper the color of the yellow screen the longer we can expose without the blues being rendered too light. The solution of the dyes should be filtered and used at a temperature of from 65 degrees to 70 degrees Fahr., and the gelatinized glass should be placed in them, and air bubbles

looked out for. It will be found that the depth of coloring will vary to some extent with the duration of soaking, but after about ten minutes there is no perceptible increase in tint, so that if a deeper yellow is required it will be advisable to use either two screens, or, what I prefer, to add to the yellow solution a few drops of erythrosine solution, which immediately deepens the color, though too much must not be used, or the greens will be rendered too dark; this is the effect of orange. One method of working is to use a very deep red screen for, say, three-fourths of the exposure, and then to remove it and continue the exposure without it; but this is quite unnecessary with panchromatic plates, if a deep enough yellow or orange screen be used.

If it is required to cement two screens together, one may use either the thick Canada balsam or dilute it with benzole. Personally, I use ordinary Canada balsam, which has been baked for some time, so that it is quite thick, warm the screens well on a hot plate, and then apply the balsam, also warm, and squeeze into contact. For large screens this is somewhat troublesome, but as long as they are well warmed and kept under pressure they will dry evenly without separating at the edges.



THE DUMPING GROUNDS

By Alvin Langdon Coburn

Stains

By F. G. in the English Amateur Photographer

One of the bothering things that are always troubling the photographic worker is the appearance of all manner of stains—stains on the hands and fingers, stains on the films, stains on the prints.

Stains on the fingers can generally be easily removed by the application of a very useful paste made of a quarter of a pound each of Glauber's salts and chloride of lime in about four ounces of water. If a little of this be applied with a bit of pumice-stone or a nailbrush, the stains will soon yield to the treatment.

When troublesome nitrate of silver stains get on the hands, few things are so good as a little solution of chloride of iron.

In the case of a reducer such as ferricyanide and hypo, we are very apt to get nasty staining of our prints—especially bromide. A better way is to use a reducer made of chloride of lime. An ounce of bleaching powder stirred up in water, and the solution filtered, gives us a capital agent for the purpose, since it not only reduces the print and picks out the high lights, but also clears it and takes away the yellow color so often present—in fact, the solution gives nice clean whites, and altogether renders the print more vigorous and brilliant. After this process all that is wanted is a good washing.

Another service the chloride of lime solution will render is the clearing away of the yellowing of platinotypes; indeed, the bath may be easily made still more active in this direction by the addition of a little hydrochloric acid—a dram of the acid to each pint.

Many a good negative has been spoilt in a thoughtless moment by haste in trying to print quickly from it, putting a piece of silver paper on to the unfortunate negative before the latter was thoroughly dry. These silver stains are often very difficult to remove, but a good plan is to prepare an alcoholic solution of iodine, three grains of iodine in an ounce of methylated spirit; the negative should be thoroughly washed and then laid in the iodine solution until the silver stains lose color; a good washing in running water should follow, after which the process should be completed by a bath of hypo. If this process is found to reduce the negative considerably, intensification may have to be resorted to. The method of simply placing the stained negative in clean hypo solution is one that has much to recommend it, and is often quite sufficient to remove any markings of this class, though a prolonged soaking is sometimes necessary to thoroughly clear the plate.

For most of the chemical stains we get on our hands a dabbing with any weak or diluted acid proves sufficient, and for pyro stains it has long been recommended to rub the fingers with a crystal of citric acid, giving the skin plenty of washing between the rubbings.

It is not well to go about with stained and dirty-looking hands, and since the unsightliness can generally be removed, there is no excuse for such behavior, more especially as the trouble involved is slight enough and the cleanliness always more desirable.

New Defender Agency

Mr. Max L. Shirpsr, 42 Third street, has just been made manager on the Pacific Coast for the Defender Photo Supply Company of Rochester, N. Y. The Defender Company products are the well-known papers Disco, Argo and Metalotype, and the new developing agent, Defendol.

This last product is undoubtedly destined to attract attention in photographic circles, as great things are claimed for it. The makers claim that the developer is non-poisonous, will not stain the fingers; plates can

be left in the solution for hours and will remain clear; cheaper than other developers; retains its good qualities indefinitely while in powdered form; remains clear in solution longer than any similar article; retains its working qualities to the last drop; gives uniform results on both plates and papers.

Mr. Shirpsr has a full supply of literature describing in detail the working of the new developer, which will be sent free of charge to all interested enough to send for it.

The First Minneapolis Salon

Following are the rules and regulations of the First Minneapolis Photographic Salon, February 4th to 15th:

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with the official catalogue of the salon issued by the Minneapolis Society of Fine Arts, which will be official notification of acceptance or rejection of the works submitted to the jury of selection.

Exhibitors may submit any number of pictures, but not more than ten pictures by one exhibitor will be hung.

All pictures submitted must be separately framed (with or without glass).

The title of each picture and the exhibitor's name and address must be clearly written on the labels provided, which must be attached by the exhibitor to the back of each picture. Nothing may appear on the front of the picture except the title and the exhibitor's name.

No accepted pictures may be removed before the close of the exhibition.

Arrangements will be made for the sale of

pictures, if desired, subject to a commission of 15 per cent.

All pictures must be forwarded at owner's risk, carriage prepaid, and delivered at the Library building not later than 5 P. M., Monday, January 19, 1903.*

Return charges must be paid by exhibitor.

All communications and all pictures submitted must be addressed to the Minneapolis Photographic Salon, Society of Fine Arts, Public Library building, Minneapolis, Minn.

It is understood, unless expressly forbidden by the exhibitor, that the Minneapolis Salon Committee shall have the right to reproduce any accepted picture in the official catalogue, or in such art and photographic journals as may comply with the regulations made by them.

The Salon Committee is as follows: Robert Koehler, Miss Bonnie Snow, Harington Beard, John Hadden, L. J. Skinner and C. F. Potter, Jr.

*We take it for granted that pictures arriving after this date will be considered, owing to the shortness of the time allowed for preparation.—Editor.

Kodak Pelloid Plates

Kodak, Limited, of London, has just placed on the English market a new product known as kodak pelloid plates. The following description is from the *British Journal of Photography*:

Pelloid plates are really not plates at all, but thin, flat films mounted on cards; they are light, easily developed, practically free from halation, and sold at the same price as backed plates. It would almost seem that ultimately unbreakable films are bound to supersede glass plates, and whilst the pelloid plates appear to be a move in the right direction, and although cheap and, so far as the test of a single box can decide it, of really excellent quality, time alone can decide if they are destined to supplant glass to any serious extent. In appearance a box of pelloid plates looks like a box of glass plates, but the weight is about one-half, which is a consideration that the traveler cannot afford to overlook. The film itself is an ordinary sheet of celluloid, coated on one side with an emulsion similar to that now used on the kodak roll films, and with plain gelatine on the other. It develops cleanly, free from fog, gives excellent half-tones, and appears to be more sensitive to green than the ordinary un-

corrected plate. The speed is about 100 Watkins, and is probably fast enough for most purposes. The novelty of the production lies, however, in the way the film is mounted. There is a black card, to which the film is attached by four metal edgings, which clip it on each side, and give a stiff, easily handled plate, which can be put into the dark slide or magazine of a camera without any tendency to cockle. After exposure, the metal clips are disengaged by introducing the point of a penknife under one edge, and the whole length strips off. Development and the subsequent operations proceed as usual, special precautions, however, being necessary on account of the back of the celluloid film being coated with gelatine, to counteract any subsequent curling in drying. On this account the film to be developed must be placed in a dish already filled with developer, instead of pouring the developer on to the dry film, as one does in the ordinary way. After washing, the film is to be pinned up by one corner or edge and left to dry. The gelatine backing insures flat drying by counteracting the contraction of the gelatine emulsion on sensitized surface, and also allows the back of the film to be retouched as well as the front.

The Amateur and His Troubles

By FAYETTE J. CLUTE

Advice for the Dealer

There is a dealer in a near-by town that has the right idea. When one of his amateur photographic customers comes in and hesitatingly displays a sample or two of his attempts at flash-light work or home portraiture, he does not give them a glance and return with the stereotyped form of congratulations on their good quality. He warms up to the subject. If they are at all praiseworthy he inquires into all the details concerning their production. He even goes so far as to ask for a sample, unmounted, that he may place it on a good mount for his collection. A print is at once forthcoming. The producer is even asked to sign the production in one corner. It is then mounted on a heavy card of good quality and placed in the show case. A print by a local amateur thus displayed will excite interest where the regulation samples of the manufacturers go unnoticed. It is easy to understand the beneficial effect of such samples on the dealer's trade. The amateur who has never attempted these lines of work is given an incentive. He is in possession of the data concerning the making of the sample before him. The dealer supplies this willingly. Flash cartridges and another roll of films are ordered. The amateur who has already produced the same class of work orders additional supplies. He is going to show Mr. Dealer that he can make a better piece of work. Benefit is derived on both sides. The dealer increases his sales, the amateur adds to his own stock of knowledge and the happiness of both is increased in proportion.

Another Hint for the Dealer

I notice that there is an increasing number of prizes being offered by all kinds of publications for amateur photographs. These prizes, if my correspondents are to be believed, are rather slow in coming to hand after being published as awarded to certain individuals. In few cases do they exceed \$5, while in most instances a smaller sum is the bait offered. Why would it not be a good idea for the local dealer to cater to this desire of his patrons himself? Those compet-

ing would have the satisfaction of seeing all the work entered after the awards were made; the local papers would be only too glad to reproduce the winning pictures; and the final display would not be a bad thing for the dealer making it. If the entries were confined to productions made on a certain brand of plates or paper the manufacturer would no doubt see his way to augment the prizes with a few dollars worth of the goods. I really believe the amateurs of the country would welcome the change of management from the foreign publisher to the local dealer in the case of photographic competitions.

Cutting a Bevel Edge on Mounts

One of my correspondents wishes to do some double mounting and give the first mount a bevel edge. He has had trouble in obtaining a neat, uniform bevel and writes for advice. For the benefit of other readers it might be well to state that this way of double mounting prints is quite pleasing if well done. The untrimmed print is mounted on a piece of white bristol board and allowed to dry. Trimmed with a neat bevel edge so as to include only the best of the picture, it is then mounted with a thin solution of glue in the desired position on a plain mount of somewhat larger dimensions and placed under pressure to dry. The beveled edge of the first mount gives a white line around the print. This narrow edge is a neat addition to the setting, and the necessity of having the print exactly proportioned to the shape of the larger mount, which is perhaps a stock size, is not so imperative. To cut the bevel edge, one must supply himself with a strip of hard wood about two inches wide and nearly half an inch in thickness. This must be planed perfectly straight with one edge beveled at the same angle it is desired to cut the mount. A carpenter's chisel about an inch wide completes the equipment. The rest is all practice. The chisel must of course, be held with the flat side against the beveled edge of the ruler. Another point worth mentioning is the necessity of keeping the tool always sharp and ground to a thin edge. If thicker mounts are to be cut it would be bet-

ter to have the cutting edge ground at an angle more or less acute with the handle, instead of the right angle as it was when purchased. By then substituting a long handle that can be rested against the shoulder for the original one, a great deal of power may be applied in the shape of a drawing cut. This method of using the tool will permit of thick board being cut. A piece of fine sand-paper drawn over a bit of wood will serve to remove any unevenness that may result in cutting heavy stock.

One Way of Printing a Border

I saw some prints on developing paper the other day that started me to asking questions. The picture itself had been printed under an oval mask. This oval was surrounded with a most pleasing effect of grain; white spots on a dark ground. I discovered that it was all very easy when one knew how. The picture is first printed under a mask from which an oval or other shaped opening has been cut. Before developing, the portion containing the picture is covered by the piece cut from the mask and the exposed portion of the paper sprinkled with sand by means of a salt shaker. A short exposure is given with the sand in position; the cut-out and sand removed and the print developed. Of course, in this last exposure the printing frame is not employed. The paper is simply laid flat on an old negative, book, or box cover. When printing the picture it is best to indicate by faint pencil marks the position the cut-out is to occupy later.

Markings on Negatives

One of my correspondents finally sent me a couple of his negatives in order that I might the better locate the cause of markings that he had been blaming upon the poor quality of the plates. The markings were all due to streaks that formed while the negative, in a partially developed condition, was held up before the ruby light for examination. The developer flowing downward across the plate made broad lines that were of an entirely different degree of density from the rest of the plate. It has been so long since I have met with this particular kind of markings that only the opportunity of seeing the negatives brought them again to my mind. The amateur should early learn to judge the condition of his negative by a quick survey as it is held in front of the lamp, reserving the study of its beauties for some later period.

Uranium Intensification

A Washington reader asks what method of intensifying will give the greatest amount of increase in strength. There is little doubt but that red intensification by uranium will give the greatest addition of contrast while it is believed to be the only formula that will render visible, detail not to be seen in the original negative. The following formula is given by Dr. Hauberrisser in the *Photogram*, at the same time deducting the above conclusions from a series of experiments which he describes in detail. The formula used was compounded as follows:

Uranium nitrate (10 per cent solution)	4½ drachms
Potassium ferricyanide (20 per cent solution)	4½ drachms
Acetic acid	12 drachms
Distilled water	10 ounces

The plate was treated for five minutes in this solution, washed for ten minutes and then dried. The acetic acid was added to prevent the formation of basic salts which would cause stains, as well as to prevent the tanning action of the uranium nitrate. The negative became fiery red in a few minutes. If the washing is allowed to proceed for a longer period the intensification is partially removed. This latter fact suggests an easy method of undoing the work should the acquired strength be judged more than is required. An intensifier working somewhat similar to the formula given has recently been placed on the market by Farbenfabriken of Elberfeld Co.

An Unnoticed Departure in Journalism

These "Amateur Photography" departments in the lay press: I wonder if any one does take them seriously? Of course the publishers have seen the advantage of catering to the photographic inclinations of the general public and we should appreciate their kindness in segregating such jokes as are only understandable to the sufferer from *camerfobia*; but at the same time there are others who do not appreciate their motives. Only a few weeks ago I was asked by one of these unappreciative individuals what was to be understood by "using a lens at 8 degrees Fahrenheit" as mentioned in the clipping enclosed. Today I received a letter enclosing another clipping in which the writer explains that "Most of the small hand cameras have only one size opening. The question of snap or time has to be put aside and the exposure

made according to the opening." Of course, if you are so fortunate as to possess a camera that has more than "one size opening" you can give a time exposure and this is the way to proceed: "To give time the opening will have to be stopped down, so as not to admit too much light. The smallest stop makes the clearest and sharpest picture, for you are then using only the center of the lens, which is always the best." As a parting shot at the unfortunate individual who only possesses one of those common small hand cameras that have "only one size opening" he explains that: "There is really more danger of under and over exposure with snap shots than there is in time, and the time exposure gives the best picture." It's a mystery to me where the publishers of this magazine got their subscribers with such valuable information being furnished by regular publications. I have written my correspondent that the clipping he so kindly sent is incapable of being explained to one so lacking in appreciation of the humorous as he evidently is. I shall try to make my own attempts at being humorous a little less veiled in the future.

Proportionate Value of the Alkalis

One of my correspondents writes to ask as to the relative value of the different alkalis used in compounding developers. Below I give a table that was published a year or so ago. It was compiled by O. G. Mason, M. D. Equal work is done by

112 parts caustic potash
80 parts caustic soda
165 parts carbonate of potash
106 parts carbonate of soda (dry)
286 parts carbonate of soda (crystalized)

It may be well to note that caustic alkalis are not to be employed with pyro or metol developers. Another thing worth mentioning is the fact that *dry* carbonate of sodium means that which is entirely free from all water of crystalization. *Crystals* is understood to mean just what the word implies. A damp or soggy form of the chemical, as well as the fine, dry, dust-like powder that is often found adhering, does not come within the meaning of the word. If either are used the amount of strength obtained is problematical.

Photographing Butter

The internal revenue officers are using Photography as a method of detecting oleomargarine. The photographs are taken through a polarizing microscope on medium isochro-

matic plates, employing a sixteen candle-power electric light. Normal butter requires an exposure of fifteen minutes; "renovated" butter, ten minutes; while the genuine oleo requires but seven. I do not know how many of my readers are interested in the matter, but it would be gratifying to learn if other doubtful food products could not be investigated by observing the different time of exposure required. Will some of my readers kindly compare the exposure demanded for good negatives of normal eggs, for instances; with that required for those that need "renovating?" A little experimenting along this line *might* result in a new field of work for the class of professionals that blame us amateurs for all the lack of business that falls to their lot.

Good Definition of Lenses

Out at the park one day, an amateur who was explaining to me the many good points of a certain form of finder, remarked on the desirability of possessing lenses that could give an image as sharp as the one seen on the surface of the finder in question. I did not argue the point with him, as he seemed perfectly satisfied with his knowledge of the subject and it would have only deprived him of a pleasure without giving anything to take its place. Finding that the same idea is quite common, due perhaps to the reason that microscopic examination of both the ground glass and the resultant negatives show grain, it might be worth while to explain that in neither case is the want of definition blamable upon the lens. If a sheet of plain glass be substituted for the ground one, a properly focused image will show all the detail desired when examined with a magnifying eye piece. In the other case the grain is due to the grain in the emulsion with which the plate is coated. This granularity of the sensitive emulsion varies in different plates. In those employed in the Lipman process of color photography for instance, no grain is visible even under a microscope of great magnifying power. The bromide of silver which gives the plate its sensitiveness is distributed throughout the emulsion in the shape of small, grain-like particles. As a rule, their size varies in proportion to the speed of the emulsion. Another cause of lack of sharpness lies in the fact that very seldom, even admitting that the ground glass is exactly on the same plane as the plate when inserted, is

focusing perfectly correct. This, of course, we imagine can be ignored if the lens is well stopped down, but strange as it may seem, it has been proved by careful experimenting that as the stop is made smaller the precision of the definition in the principal plane is made less. This is presupposing that the

lens is corrected for aberration. The use of a small diaphragm of course corrects in a measure the chromatic aberration of inferior lenses and in all cases increases the depth of focus or general sharpness; but the critical sharpness at the point in best focus is not always improved.

A Photographic Digest

By H. D'ARCY POWER, M. D.

Paper Negatives

Translated from Le Photogramme

M. Ach. Delamarre in a communication to Soc. Franc. de Phot., warmly espouses the claims of paper negatives on the ground of cheapness, convenience and excellence. He says: "It participates with the film in the qualities of lightness and infrangibility. There is no fear of halo or a veil of over-exposure; as with films, they can be supplied in rolls. They are easily retouched on the film side or better from the back be it by scraping if it is desired to augment the transparency of certain zones, or by the pencil, etc.

"They render the maximum; I mean by that, that given an emulsion of determined rapidity, one obtains a negative (sensitive Tr.) surface more rapid, furnishing a more perfect image when this emulsion is spread on paper than if spread on glass or celluloid. This is due to two distinct causes, whose effects are, however, the same."

The author points out that the most important of these is the fact that in a paper negative the latent image is attacked by the developer from both sides of the negative and completely reduced, whereas in plates and celluloid films it acts only from the front, and he maintains that the paper negative gives better modeling and a more perfect rendering of distance. In the matter of technique M. Delamarre insists on full exposure and a development "to the back" (a fond), that is right through the paper. He uses hydro-metol for snapshots and pyro for time exposures. Potassium carbonate is preferred to sodium carbonate and ammonium bromide to the potassium salt. The yellowing of the paper by pyro is prevented by excess of sulphite.

It is advised to put the prints in 10 per cent glycerine bath before drying to give

suppleness and an absolutely flat surface. In other respects, the treatment is the same as that of other negatives. The attempt to render the paper transparent, by oiling, etc., is disapproved of.

Lantern Slides in Color

Mr. R. R. Hawkins describes a process of staining lantern slides by means of the ammonia citrate of iron and potassium ferrocyanide for greens and blues and then counterstaining with Fergusson's bath of ferrocyanide of copper, which gives a series of tints running from brown-black to bright red. By these combinations the author claims that very beautiful effects may be obtained with selected subjects. This may very well be granted, and yet it is difficult to see any special advantage in Mr. Hawkins' method over tinting in the usual manner. It is possible that something is gained in permanency, but certainly not in flexibility and modern eyes demand truer not cruder coloring.

How to Make Your Own Bromide Paper

I have often thought I would like to make bromide enlargements more frequently than I do if I had a choice of tints and surfaces such as is possible in gum and carbon. This would only be possible by making my own bromide emulsion. There is a vague idea prevalent that this is too difficult for the amateur, but the following directions culled from a recent number of the *English Amateur Photographer* will convince the reader that it is quite within the capacity of any careful worker, and calls for no special apparatus:

"To prepare a batch of 240 c.c. (or five ounces), put 10 grammes (or 100 grains) of Nelson's gelatine in a clean wide mouthed bottle and cover it with distilled water. Leave it for an hour or so, until swelled and quite soft, and then pour off all surplus water.

Place the bottle in warm water, slowly increasing the heat until the gelatine is all dissolved. Next add 6 grammes (or 60 grains) of ammonium bromide, and stir until quite dissolved. At this stage you must adjourn to the darkroom and complete the operation by ruby light. Have ready a solution of 10 grammes (or 100 grains) of silver nitrate in 24 c.c. (or $\frac{1}{2}$ ounce) of warm distilled water, and add this mixture to the gelatine solution *drop by drop*, stirring constantly with a strip of glass. When the emulsion is formed, pour it steadily and slowly into 1000 c.c. (or 30 ounces) of the best methylated spirit. The emulsion will be precipitated as a gelatinous mass at the bottom of the vessel containing the spirit, and the spirit can be poured off and reserved for other purposes after extracting the water and free salts. The clot of emulsion will require no further washing, but should be well drained, put in a clean jar (or wide-mouthed bottle), and re-melted by gentle heat. Then add enough distilled water to make a total bulk of 240 c.c., or five ounces. It is generally advisable to filter the emulsion through chamois skin, and it is a good plan to keep it for twenty-four hours before coating the plates, as that gives it a chance to ripen and gain a little in rapidity. You will find this an excellent emulsion for lantern slides and bromide paper; it is quite quick enough for reduction or enlarging by artificial light, as well as daylight. Five ounces of this emulsion is sufficient to effectively coat sixty quarter-plates. Any developer may be used. Plain smooth Rives paper (or rough if preferred) is damped in hot water, and laid on a sheet of glass. The surplus moisture is removed, and the emulsion poured on the center, and rapidly spread (or "guided") by means of a strip of glass. When set, it is detached from the glass support, and hung up to dry. That is the handiest way for amateur use, as large rolls are very inconvenient without proper coating machinery. Baryta coated paper may also be used if preferred, and the emulsion may be thinned by the addition of (up to) 25 per cent more water, if found to be not sufficiently limpid for coating paper."

A New Modification of Bromide Prints

According to the *English Amateur Photographer*, M. Houzel has recently discovered a method of turning an ordinary bromide positive into a print in India ink. He was seeking to remove the yellow stain from some

old bromides by means of a one in four solution of hydrogen peroxide, with the result that the silver image disappeared together with the stain. (They were left in over night.) He remarked that the gelatine was also removed from the shadows, but not from the high lights. This led him to experiment. He brushed the prints over with India ink, dried them and then redeveloped by washing with warm water. The India ink took the place of the dissolved silver and yielded proofs resembling engravings. As India ink is indestructible and bromides are not, the process may offer possibilities. Certainly it is simple enough to justify our readers repeating the experiment.

Stripping Ordinary Negatives on a Film of Celluloid

In the present day of many printing methods, it is no uncommon thing for an amateur who has taken a negative on a glass plate to wish to have his negative in film form, as suited to single-transfer carbon, for example. Quite apart from such considerations, exigencies of storing or sending may make the film form desirable. In such a case, the procedure is not very different from that adopted by the manufacturers of roll film, only instead of using liquid celluloid, or celluloid varnish, to give substance or body to the original film of gelatino-bromide, the liquid celluloid is used to thicken or strengthen the film of the exposed and developed negative. Whatever may be the merits of roll films for landscape or other work away from home, most persons prefer plates for home operations and copying, plates being more convenient to handle than films, and plates are more absolutely flat in the camera than films. The stripping process, which enables the home worker to combine the convenience of a rigid and quite flat sensitive surface during exposure, and that of a film negative afterward, is treated of at considerable length in the September-October issue of *Le Photo-Journal* (p. 77), and without going into the historical study of the subject, we may concisely give the matured instructions for converting an ordinary negative into a film negative, these instructions being substantially those of M. Rousseau. The negative, after having been well washed in the ordinary way, is not allowed to dry at once, but, while still wet, it is soaked for about one minute in the follow-

ing liquid, the dish being kept in constant agitation:

Water	100 parts
Formalin	30 parts
Glycerine	4 parts

The negative is now set up in a rack, and allowed to dry without being rinsed. If the negative to be stripped is one which has already been dried, it should be soaked in water for half a day before it is immersed in the formalin bath, and in this case the time of immersion should be increased to four minutes. An alternative in treating a previously dried negative is not to soak it in water, but to allow ten or fifteen minutes in the formalin bath. It is, however, better to soak in water first. A celluloid varnish is now prepared by mixing ten parts of amyl acetate and one part of acetone, scraps of clean celluloid being dissolved in this until the varnish is of the consistency of oil. The formalined and dry negative is now thickly coated with this varnish by the ordinary flooding method, and the plate is laid down in a level position to dry. If the edges of the film are cut through to the glass, the stripping off of the film is generally easy if one corner is lifted with the point of a penknife, and by this corner the film is slowly drawn off the glass.

M. MARIE'S MANIPULATION FOR THE FINAL STRIPPING

In order to secure an even tension in separating the formalined and celluloid-coated

film from the glass plate, the plan recommended by M. August Marie is admirable (p. 82 of *Photo-Gazette* mentioned above). With the point of a knife the edge of the film is cut through on two opposite margins of the plate, and at a distance of about a tenth of an inch from the edge. The plate is now turned over, and a cut with a diamond is made across the back, this cut being at right angles to the two marginal cuts through the film. The plate being now strained in the usual way, so that the glass separates at the diamond cut, the film is left as a hinge, and it is very easy to strip the film if the two pieces of glass are drawn apart at the proper inclination. This method of working involves the destruction of the glass plate, a matter of no importance in ordinary cases. We may remind our readers that if a film shows a tendency to adhere, it may be advisable to make quite a large number of parallel diamond cuts across the back; indeed, by cutting the glass of a waste quarter-plate negative in twenty places we contrived to strip the film without in any way treating it or thickening the film with celluloid, but as the next plate we tried was a complete failure, owing to adhesion, it is evident that this short method is not one to be generally recommended; still a trial at one end of a plate should show whether the film tends to adhere strongly.—*English Amateur Photographer*.

Notes and Comment

A New Factory

The Stuparich Manufacturing Company will move into their new factory, corner of Eighth and Brannon streets, San Francisco, on February 1st. The new plant is much larger than the old one and will accommodate all of the new machinery just purchased by this growing western firm.

A Winter Catalog

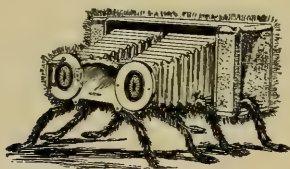
"When Explorer Peary crossed the line of the Arctic Circle with the bold intention of using the North Pole for a tripod and focusing his Hawk-Eye on the Aurora Borealis, he chose a field for Photography upon which few

will care to intrude," says the new winter catalog of the Blair Camera Company, Rochester, N. Y. And we are inclined to believe that this bit of symbolic language means what it implies. The Hawk-Eye cameras hold a position in the world of Photography seemingly as impregnable as the country Peary tried to reach. The new catalog is rich in appearance and should interest every dealer and photographer.

The Aristo Bird

Each succeeding year there comes to us the pleasure of calling to our readers' attention the continued growth and progress of the Aristo bird in the realms of Photography.

Since 1889 the bird has continued its yearly flight, growing stronger and stronger until now when it has burst the restraining rules on our back cover page and seems to long for fresh fields and new worlds to conquer.



Song of the Stereo

O! The Stereo Camera had a bad fall
 And ruined her beautiful eyes.
 She tried in vain each Stigmatom
 That makers advertise;
 But none of them gave to her ground-glass
 brain
 A picture bright and flat
 'Till the Camera-oculist fitted her out
 With a B and L Plastigmat.

Some New Books

"The A B C of Photomicrography," by W. H. Walmsley (Tennant & Ward, New York), is exactly what it purports to be, a clear and succinct introduction to Photography of the minute. The writers of text-books range themselves into two classes, those who try to tell the reader all that has been done or thought of, leaving the student to choose his method, they aim at being encyclopædic and end in being bald; and the men who are content to describe their own method of working. The book in question is written by one of the latter class and therein is its strength, Mr. Walmsley is well known as an experienced and successful worker. The student who follows the minute though perfectly simple directions he describes can hardly fail of good results. The book describes the technique to be followed with low, medium and high powers and also gives an excellent description of making enlarged photographs of small objects by means of the ordinary photographic lens and long bellows extension—a method I have long used with excellent results.

"Voigtlaender and I in Pursuit of Shadow Catching," by James F. Ryder (Cleveland

Printing and Publishing Company). The contents of this book have already appeared in serial form in the pages of our contemporary and have charmed readers with the delightful narrative style and the many reminiscences replete with historical interest. Mr. Ryder has put us all under an obligation in reproducing these articles in book form. It is a series of sketches from the autobiography of an ardent photographer whose wanderings have brought him into contact with many noted men and stirring events. Particularly interesting is an account of his friendship with C. F. Browne (Artemus Ward). The book is excellently and most interestingly illustrated throughout and should find a place in the library of every photographer.

Photographic Tables

We are in receipt of a new set of the photogram tables from our esteemed English contemporary and wish to call our readers' attention to their excellence. The set contains a guide to correct exposure in out-door work and copying, table of enlargement and reduction telephoto rules, directions and chart for fixing the time of best lighting of any view, thermometer scale and photographic temperatures, weights and measures—British and metric, how to see stereoscopic slides without a stereoscope. The set is sent to any one in England who sends a penny stamp, but as the supply of this currency is not available in the United States we suggest that those of our readers who are interested send ten cents in silver for a set. It is well worth the trouble.

An Increase in Fees

On March 1, 1903, the tuition fees of the Illinois College of Photography for the two and three years' courses or life scholarships will be advanced to \$250. They will also be increased every few months thereafter until they reach \$400, at which price they will be kept permanently. The desire of the college is to make a recognized institution of learning for all classes, and to do this a constant search is made for new ideas and efficient instructors to put these ideas into effect. These additions to the curriculum and faculty naturally make the course much more valuable to the student and expensive to the institution.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
114 Geary Street, San Francisco

Entered at the Post Office in San Francisco as second-class mail matter

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WANT AND EXCHANGE DEPARTMENT

If you have anything to sell or to exchange try this department. Somewhere among the thousands of CAMERA CRAFT readers there are sure to be several who will be glad to correspond with you. In many cases CAMERA CRAFT can guarantee the reliability of the advertiser and will do so upon request. Otherwise the magazine assumes no responsibility. One insertion free to all seeking employment. Fifteen cents a line, eight lines \$1. Cash must accompany advertisement.

For Sale—Complete professional outfit, consisting of Voigtlaender euryscope lens, 8x 10, No. 3; New York studio camera with automatic cabinet attachment; camera stand; 8x 10, two backgrounds; one head ground; one head rest; one model duplex burnisher; one Kays stamp plate holder; Low shutter; trays, printing frames and everything required in a modern gallery; cost \$250; will sell for \$100. P. M. Canepa, Ferndale, Cal.

Position wanted by a man of experience in the photo supply business, wholesale and retail; will furnish best of references. Address A. B. C., care of publishers.

I will pay cash or give liberal exchange for interesting unmounted photographs, any size, either amateur or professional. Wilfred C. Tilton, Prairie Depot, Ohio. May, '03.

For Sale—\$150; furnished gallery. T. G. Robinson, Woodland, Cal.

For Sale—A photographic studio in a good location; will sell according to invoice; price reasonable. Photographic Studio, care of CAMERA CRAFT.

For Sale—Two Air Brushes. T. P. Andrews, 109 Montgomery St., S. F., Cal.

For Sale—One of the best studios in the Northwest. For particulars address L. B., care CAMERA CRAFT.

Gun Wanted—Who has a gun to exchange for a camera in good condition, or to sell cheap? I would like to get a 12-gauge hammerless of some good make. Address replies to Hunter, care CAMERA CRAFT.

Two hundred and fifty-six unmounted views; size 5x7; no two alike; packed in case ready to mail; \$3. J. D. Givins, photographer, 1776 Union St., San Francisco, Cal.

Lantern Slides—I desire to gather a collection of lantern slides showing the prominent and interesting features of all of the large cities in the United States, and to that end will be glad to correspond with all who desire to exchange for a similar number of San Francisco scenes. Lantern Slide, CAMERA CRAFT Office.

For Sale—3¼x4¼ Goerz lens, Unicum shutter, \$27.50; 4¼x6½ Zeiss lens, Series II A. B. & L. shutter, \$32.50; 4x5 Zeiss Convertible lens, B. & L. shutter, \$50. T. P. Andrews, 109 Montgomery St., San Francisco, Cal.

Eastman Kodak Company

ROCHESTER, N. Y.

his own films to be developed, as he did not believe the machine would do all that was claimed for it; but after showing him the film developed and fixed without the use of a dark-room, and without handling, he was convinced and bought a machine.

Thanking you for giving us the demonstration, and predicting a large sale for the machines, we remain,

Yours truly,

R. H. INGERSOLL & BRO.

Per I. Forshay, Mgr.

PHOTOGRAPHIC COMPETITIONS.

For the benefit of those interested, we will give here each month, a bulletin of the important photographic contests in progress throughout the United States.

BAUSCH AND LOMB OPTICAL COMPANY, Rochester, N. Y. International competition. \$3000 in prizes. Closes October, 1903.

C. P. GOERZ OPTICAL WORKS, 52 Union Square, E., New York. Cup competition for professionals, closes August 1, 1903.

LESLIE'S WEEKLY, 110 Fifth Avenue, New York. Weekly competitions open to amateurs. Prizes, \$10, \$5, \$1.

BUFFALO EXPRESS, Buffalo, N. Y. Continuous contest. Prizes, \$5 to \$25 weekly.

Eastman's Bromide Papers

*For 16 Years
the
Standard*

RAPID PROGRESS

MADE BY PUPILS IN THE KODAK
CORRESPONDENCE SCHOOL OF
PHOTOGRAPHY.

There are few amateur photographers who cannot be benefitted by the Kodak Correspondence School of Photography. Whether they use the Kodak Developing Machine or whether they stick to the dark-room methods it will help them over the hard spots. It treats both the technical and artistic sides of photography in a simple manner that appeals to the novice and immediately widens his photographic horizon. The textbooks are clear, concise and free from bewildering technicalities. Honest, individual criticism is given to each pupil's work. Photography, especially film photography, can be readily taught by mail because of the facility with which the actual results of the amateur's work may be passed back and forth between teacher and pupil. This school is open, upon payment of one dollar, to all owners of Kodak and Brownie Cameras. Read what some of our pupils have said:

Greatly Benefitted.

I joined your Kodak Correspondence School of Photography early last August, and am very much pleased with the booklets, and particularly the one on "Picture Taking and Picture Making".

I have studied these books carefully and submitted many pictures to the K. C. S. P. Department, and can readily say I have been greatly benefitted in every way by the criticism I received. I sincerely recommend the Kodak Correspondence School of Photography and advise all who are interested in this fascinating work to join at their earliest opportunity.

Cordially yours,

Jean S. Taylor.

No. 106 Wilson St., Brooklyn, N. Y.

Just the Thing for the Amateur.

Fort Wayne, Ind., Nov. 13, 1902.

* * * I have not lost my interest in your Correspondence School. I think it's just the thing for the amateur in photography. We do not beg for information now; we ask for it and get it in a way that we know it's straight goods, just right. I lose no opportunity to explain it to my friends and will do all I can to keep it going. Believe me, I am,

Yours truly,

Geo. Kensill,
No. 132 E. Sutherland St.



POWDER FIRE AT MARE ISLAND
LOSS HALF A MILLION
by W. F. HENRY

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. VI

SAN FRANCISCO, CALIFORNIA, FEBRUARY, 1903

No. 4

Photographing Accidents

Some Remarkable Pictures With a Few Words of Advice

By A NEWSPAPER PHOTOGRAPHER

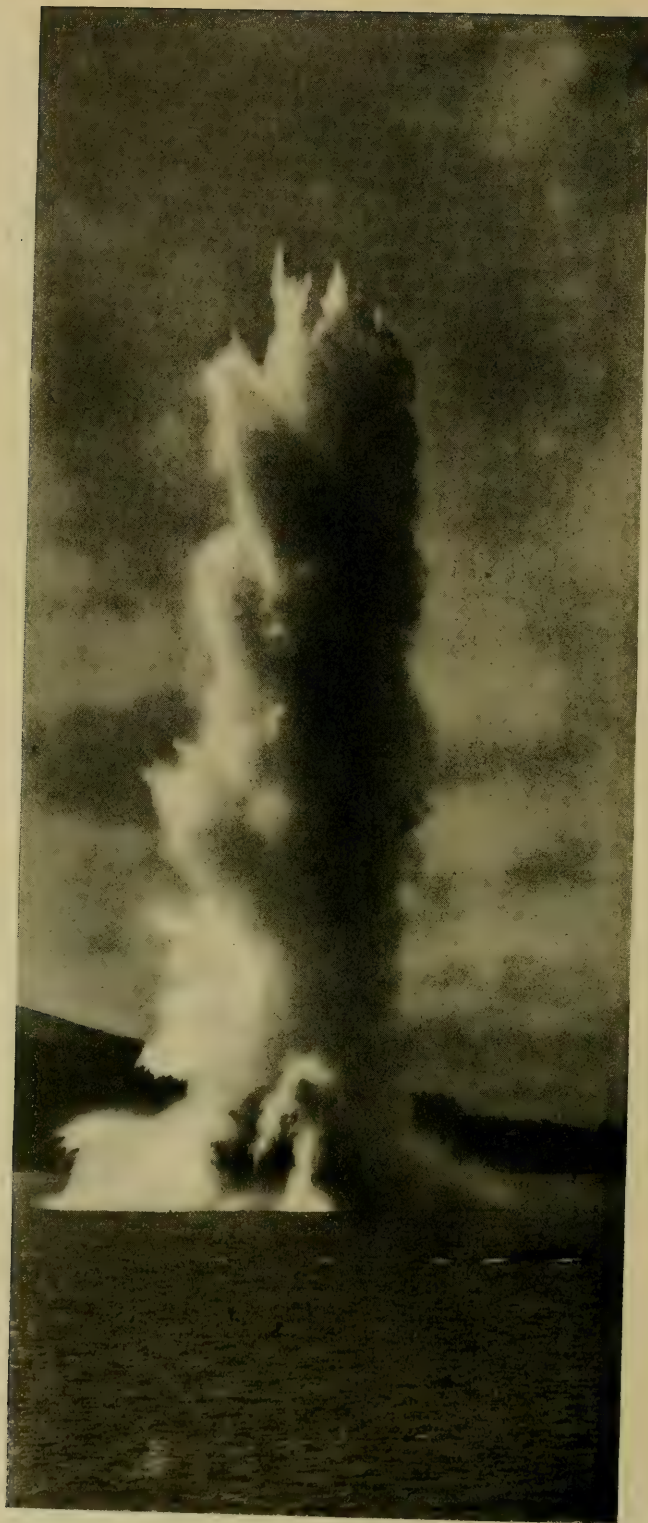
Success in battle, as a famous general once said, depends upon getting there first with the most men. In a measure this formula is applicable to the work of the photographer who wishes to gather a collection of extraordinary photographs such as are reproduced on this and succeeding pages. While the opportunity for free artistic expression in a photograph of an explosion or a fire is limited, and although the scientific value of such photographs amounts to but little, still the great interest attached to a stunning good picture showing full details of an extraordinary occurrence together with its record value and a possible monetary value for the press, merits consideration and discussion.

Naturally the opportunity of making pictures of this kind come to but few of



THE PROGRESO CATASTROPHE

By Chas. Weidner



THE BLOWING UP OF
SHAG ROCK
by JOHN HARE

us and that but seldom, so that when they do come we should be prepared to accept them. To be a successful photographer of unforeseen happenings it is absolutely necessary that the tactics of the best newspaper photographers be closely imitated. The camera should be in good working order at all times and in a convenient place. Plate-holders should be loaded as soon as emptied, and above all the photographer should place himself in touch with news centers, so that information of a disaster or extraordinary happening will reach him promptly. This latter feature can best be disposed of through a friend on an afternoon newspaper. All newspapers using illustrations gladly avail themselves of the opportunity offered them by photographers who evince a desire to cover events of this character and are willing purchasers of available pictures.



A FOREST FIRE

By J. B. Hulse

The foremost consideration is the question of time. A moment's delay may destroy all possibility of making an interesting picture, and in this field where every obstacle is encountered success should not be endangered by a lack of promptness.

Photographers living at a distance from cities in which illustrated newspapers are printed have the same opportunity as their city brothers, in fact, more so, for the reason that competition does not enter into the field. Mr. Henry's remarkable photograph of the powder explosion at Mare Island is an example of this fact. This explosion, or rather, fire, for the powder burned slowly instead of exploding, occurred at six o'clock in the morning, and the photograph was made just three minutes later. The camera was two miles from the fire, the column of smoke being over a mile high. The loss involved in this fire was over half a million dollars.

Mr. Weidner's picture of the explosion on the ill-fated oil-burning steamer *Progreso* is another example of the success that follows immediate action. While many of the San Francisco photographers were looking at the newspaper bulletins announcing the catastrophe Mr. Weidner was hurrying to the scene on a tug, and took



BURNING OF THE SHIP OCEAN BIRD AT LYTTELTON, N. Z.

By W. A. Taylor

his series of pictures of the accident in which a score of lives were snuffed out by one terrific blast from the immense oil tank.

Of no less interest is the picture of the blowing up of Shag Rock, in San Francisco Bay. In this picture the photographer had plenty of time for preparation and experiment, but in the choice of position and lighting there was considerable latitude and the excellent result indicates the wisdom of carefully considering the viewpoint in making pictures of this character.

The forest fire picture by Mr. Hulse, a good counterfeit of a volcano in eruption, was made under unusually trying conditions. The picture was made late in the afternoon, and as the sky was overcast considerable nicety in timing the exposure was necessary. The frequent forest fires that occur in the Northwest are extremely picturesque and most destructive, yet it is but seldom that photographers brave the dangers attendant upon a close visit to a real live forest fire. In this case, however, the fire was at a considerable distance and had just started.

The burning of the ship Ocean Bird occurred in the far southern seas, and the absence of all shipping and evidences of life make it extremely interesting.



ON THE SANDS

By Chas. Weidner

Practical Color Photography

By ARTHUR P. TALBOYS

The adjustment of the relative exposures through the three filters was dealt with last month. In CAMERA CRAFT for March and in succeeding issues instruction will be given in the remaining processes concerned in the making of a tri-color transparency.

Having determined the ratio of exposures through the three filters for the particular plates in hand, we are now in a position to make some real advance. The beginner is advised to confine his attention, for a short time, to the photographing of indoor objects only, such as paintings, colored vases, plaques and the like, or he may try his hand on the contents of the greenhouse if one be available. This would enable him to become familiar with the working details of the process, and at the same time teach him the class of subjects most suitable to the process.

The object having been decided upon, the next thing to do is to select a suitable background; and this should be such as gives prominence to the object without greatly contrasting in luminosity with the same. It is, therefore, better to choose one of a color differing from that prevailing in the object. To expose on an object of the same color as the background, would give a result flat and confusing. Any white in the picture is to be avoided, unless the other colors are extremely bright; for the reason that the details in the white are lost by over-exposure before the darker parts are sufficiently exposed.

It is important that the object be evenly and well lighted. Perhaps the best position, in an ordinary room, would be facing the window, and as near to it as the lens will allow, when the camera is placed very close to one side of the window. This form of lighting gives an effect of flatness, but may be obviated, to some extent, by placing a reflector near the object, on the camera side.

At the time of focusing, which is done with the green filter in position, it is most important that the camera and stand be perfectly rigid, in order that no movement may take place when changing the dark slides and filters.

A trial exposure is now made through the blue filter, and the plate developed, by the "time" or "factor" method (to be described further on), and fixed. If the exposure has not been greatly over or under-done, it should be possible to judge the correct exposure for this filter fairly accurately from the negative, and knowing the ratio, it is easy to calculate the exposures for the red and green. Thus, suppose we decide to give the blue 20 seconds exposure, and our ratio is 1, 6, 20, we must substitute 20 for the 1, and multiply this by 6 and then 20; this would give 20, 120 and 400 seconds for the blue, green and red respectively.

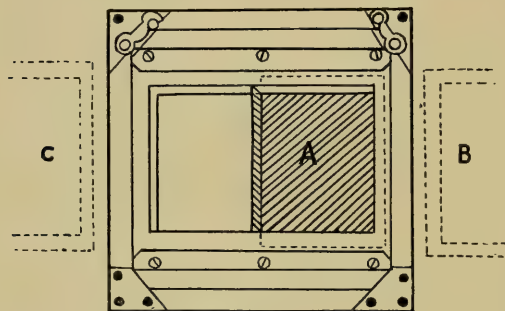
Another important point to see to is that the light be fairly constant during the exposures, the best time being, undoubtedly, when the sky is cloudless; we then get better lighting, and run no risks of having our exposures upset by passing clouds.

Three-color landscape work is generally considered impossible with ordinary apparatus, owing to the continual movement of the trees, etc., by the wind and the length of exposure necessary. These conditions still remain; but in spite of the fact,

we have seen some very excellent results of landscape work, which prove that this class of work is not beyond the power of the average amateur, provided a little judgment be exercised in the choice of the subject.

A serious drawback to outdoor work is, that it necessitates of several dark slides being stocked and carried—that is, if we want to make several exposures without changing. I may, therefore, explain a plan (adopted by myself) which enables those possessing half-plate cameras, to double the number of their exposures without changing. Fig. 10 represents a piece of thick tin with the end bent upon itself, and of the dimensions shown. Two quarter-plate negatives are taken (by way of example), and one slipped in the groove at each side, so as to meet in the middle. This is turned over and placed in the rebate of the half-plate dark slide, the pressure, when the dark slide is closed, being sufficient to keep them in this position, during exposures. Fig. 11 shows a piece of thick black paper A, fixed by four drawing pins on the inside of the reversing back of camera. This arrangement allows of one of our quarter-plates being exposed at one time.

The first is exposed by inserting the dark slide in the usual way, as seen at B, and the other, by inserting it from the opposite side, as at C. Of course it is not



F g. 11

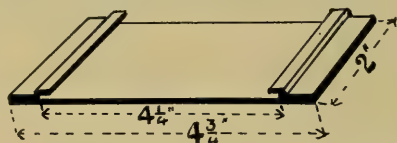


Fig. 10

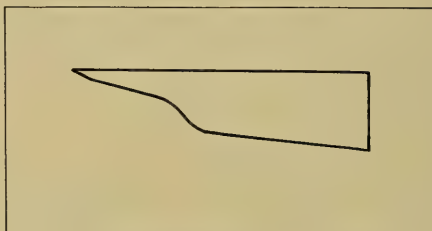


Fig. 12

absolutely necessary to put in the dark slide in this manner; in fact, a great many cameras are so constructed that this cannot be done. The only alternative, then, is to move the card to the other side, altering the position of the sliding or rising front accordingly. This mode of working with a quarter-plate camera has been found very convenient by the writer when very small objects were to be photographed; taking pictures on one quarter-plate.

To return to our subject. The most suitable landscapes are those having little contrast as regards luminosity, such as have been recently described in these columns by the Rev. F. C. Lambert, as being in a high or light key, or an intermediate key. If we try to include the lightest and the darkest colors in one picture, we attempt the impossible, and result in getting false colors in the light and darker parts while only the intermediate ones may be true to the original. We might attempt with success those views such as we get from a hillside (panoramic), or even those with foreground, but the middle distance must be well defined.

In monochrome work it is quite an easy matter to record foreground, middle and extreme distance, together with the sky effects on the same plate, by means of a graduated yellow filter, such as those supplied by Messrs. Sanger Shepherd & Co. But graduated color filters in three-color work are quite impossible. Toward the end of

the summer the writer made a graduated gray glass which, though not an ideal one, has proved itself very effective the few times it has been used. A curved opening (see fig. 12) is cut in a piece of thin sheet lead (which should be free from the minute hole common in this material) and pinned over the aperture, in the shutter of the apparatus described in the preceding chapter.

The shutter is slipped into the frame and the curved aperture of the lead focused in the camera, so that, when this shutter is moved from one side to the other, the curved opening will trail across one-half of the dry plate when placed in the camera, the narrow portion being near the middle. The shutter is moved to the extreme left, and the dark slide, containing an ordinary plate, is put in the camera, and the lens uncapped. The shutter carrying the curved aperture is now moved, at a uniform rate, to the right side and back again; which should take about three seconds, if white blotting be used, outside the window. The plate is developed until sufficient density is acquired, which must be decided by trial in the camera.

After fixing and washing, the plate is cleared by immersing for one minute in: Hydrochloric acid, $\frac{1}{4}$ ounce, saturated solution of alum, 5 ounces. The camera may then be focused on a landscape, and the gray glass adjusted and fixed in the reversing back. An ordinary plate is exposed without filter, and developed.

If the lighter parts in the foreground, extreme distance and sky, come up in development at the same time, the plate may be considered suitable, and should be cemented to a cover glass with Canada balsam and bound as a lantern slide. The secrets of success in cementing with balsam are—the film must be thoroughly freed from moisture, and the balsam must be allowed to spread gradually over the surface of the film. The balsam and plates are warmed; a small quantity poured on the film, and the cover glass slowly lowered; after which it is placed near the fire for a couple of hours, then allowed to cool and bound, when it is ready for use.

It must be borne in mind that the particles of silver in the film scatter the light considerably, and, therefore, the screen must be placed as near the dry plate as possible during exposures.

It should also be remembered that this gray plate, reducing as it does the intensity of the sky and distance to that of the foreground, also lengthens exposures.

As remarked before, this is not an ideal graduated plate, but it is easy to make, costs nothing and gives excellent results. It is hoped one of the enterprising firms will take the hint and give us something better.

As regards the all-important matter of exposure, little can be said here that is likely to be of much assistance to the reader. If we could persuade the makers of these plates to mark them according to their sensitiveness to light of the color of our blue filter, the estimating of exposures would be as simple and correct as it is in monochrome, with the aid of an actinometer; because, once having determined the number of times which normal exposures, as indicated by our meter, are increased by the blue filter, the plate speed numbers and an actinometer would do the rest.

The best advice I can give, is to fix up the sheet of platinum paper in a dull light, and expose a plate to it in the camera. Insert the blue filter in position, and expose another, in four strips, by drawing the dark slide shutter one inch for each exposure. It is impossible to fix these exposures here, as the lighting, stop and plates have to be taken into account; suffice it to say that the smallest stop should be used, so that the exposures may be lengthened as much as possible.

The two plates are developed together for the same length of time, fixed and examined. One of the strips will appear of the same density as the other plate. By comparing the exposure these two received, the number of times normal exposure is increased by the blue filter can be found, and whatever this may be, the exposures indicated by the actinometer should be multiplied by it, and the red and green exposures found as before.

We now come to the development of the exposures. It is of the first importance that the dark room be absolutely light proof. Plates are extremely sensitive to all colors, and any reflected light, however little, may cause fog, and ruin no end of plates. If the worker is not provided with a proper safelight, a plate of violet-stained glass placed in contact with the ruby glass forms a very good one, and is inexpensive.*

The developers required for our purpose are those that produce the maximum amount of details, without fog or stain, such as the following: Amidol, dianol, metol, rodinal. Doubtless these are all very good, but only the last two have come into my hands, and of these I give rodinal the preference, being cheaper and not requiring the trouble of weighing and mixing.

The Watkins method of development has been generally adopted by three-color workers, because it admits of this being done practically in the dark, and therefore reduces the possibility of fogging the plates.

The writer has usually found that with a developer consisting of rodinal 1 part, distilled or filtered rain water 40 parts, and a multiplying factor of 20, suitable negatives can be obtained, provided the exposure is fairly correct. To make this clear, suppose three plates are to be developed; these are placed all in a large dish and a good supply of developer poured on, noting the time.

About every half minute the dish cover is raised to see if the high lights on either of the plates have appeared. Directly this happens, the time is noted again, and the time elapsing between the pouring on of the developer and the first appearance of the high lights is multiplied by 20, at the end of which time (reckoning from the commencement of development) the plates may be taken out, rinsed and fixed in the usual way, and finally, washed for two hours.

During the time of development and fixing, the worker should guard against exposing the plates unnecessarily to the ruby light, for I have found that, even with the specially made safe lights, the plates are liable to fog through this. There is no need to look at the plates after the high lights have appeared, until the expiration of the time of complete development.

If the worker started with the ratio and exposures fairly correct, and followed these instructions, he should now be possessed of three suitable negatives from which to print the transparencies. These negatives should be free from fog and stain, full of detail, without hardness, having the appearance somewhat of an ordinary plate over-exposed. If not, it is useless to go further than the development, for no after-treatment will compensate for errors in exposures.

*Or the following from *Figures, Facts and Formulae*: Dye two gelatine plates, fixed and washed, one in naphthol yellow and one in aurantia solution. When dry, coat with collodion, stained with brilliant green G, and the other with fuchsin in collodion. These collodions must give a fairly pale film when flowed on a trial plate, or the filter will obstruct nearly all light. Bind the two plates together.—EDS.

Photographing Indian Babies

SECOND ARTICLE

By GEORGE WHARTON JAMES

With copyrighted photographs by the author

Simply in the methods of carrying and cradling babies the student of the Indian finds wonderful diversity. In this diversity is great interest, and, photographically, great incentive to work. For instance, compare the methods illustrated in the former article on this subject with fig. 1 herewith. Of course, the boy carried his baby sister in as bungling a fashion as one might expect. But this Navajo mother has a method both convenient, easy and picturesque. The youngster is "hunched" upon the back, then the blanket thrown around both carrier and baby so that it fits tight to the seat

of the child and brings the weight upon the shoulders and muscles of the chest and across the hips. A child will sleep soundly when carried this way, though the mother ride horseback, and many a Navajo and Apache baby has had miles of such conveyance long before its lips began to frame articulate speech.

Children are always "cunning" or "cute" to somebody, and good children are always interesting to me. As a rule, Indian children are "good," in the sense that the word "good" is generally used. They are not nagging, whimpering, ugly tempered, spoiled. They are not overfed and pampered, and have no nurses whose obsequiousness ruins their dispositions. They are afraid of strangers, as a rule, consequently the stranger, who, like myself, is fond enough of *some* strange youngsters to want to take them up in his arms, often finds it difficult to overcome that fear.



FIG. 1.—A NAVAJO MOTHER AND CHILD

But I seldom fail. It may take a little time, much tact, more diplomacy and, most of all, a lot of candy, yet, tact and candy will generally win.

The candy method of securing photographs is a most successful one. I claim no originality for this, though I do think I used it to far more advantage than many of my predecessors. But that others have followed to good purpose is shown in fig. 2, made by Mr. G. L. Rose, of Pasadena, which shows a group of Hopi children waiting for candy. "Anticipation" would be a good name for this picture, and then its companion should be "Realization," as the candy was showered upon them. It will



FIG. 2—ANTICIPATION

be noticed that here is a white-faced girl. She is a perfect Albino, one of those singular ethnologic mysteries of which no satisfactory explanation as yet has been given. Born of pure-blooded Indian parents, both of whom have dark skin and hair, this girl has white skin, pink eyes and red hair.

The unconscious child often gives a good picture, and fig. 3 is an illustration of this. I was in a camp of Palomas Apaches, many of whom were averse to being photographed. I do not often "steal" a photograph, but this is a stolen one. The old lady was busy "roughening" her metate for more effective corn grinding, one child's back was to me and she was scratching away for dear life, while the baby was seriously considering some very important matter. The absolute unconsciousness of all concerned in this photograph is its chief charm.

Equally unconscious, but this because she was nearly asleep, was the Chemchuevi baby of fig. 4. I never saw a photograph of a Chemchuevi before I made this and others, on my trip last February. This interesting branch of the great Painti family lives on the Colorado river, below the Needles, near a valley which has their name and not far from the Williams Fork of the Colorado. This woman was a most kind-hearted, motherly soul. She had several children and cared well for them. We had quite a discussion as to whether making a photograph would injure her baby, and when I assured her it would not she readily assented.

Equally unconscious, but as wide awake as she can be, is fig. 5, a Wallapai baby. This child was, without any question, one of the sweetest, cutest, dearest, good-natured little ones it has ever been my good fortune to know. If I could have bought her and been assured she would grow up as sweet tempered and good as she is now, I would have been tempted—that is, of course, after consultation with everybody at home—to try to purchase her. And do you think I should have succeeded, you of



FIG. 3—THE OLD LADY WAS BUSY "ROUGHENING" HER METATE . . .
ONE CHILD'S BACK WAS TO ME AND SHE WAS SCRATCHING AWAY FOR DEAR
LIFE, WHILE THE BABY WAS SERIOUSLY CONSIDERING SOME VERY IMPORT-
ANT MATTER



FIG. 4—A CHEMCHUEVI MOTHER

my readers who think of the Indian only as degraded and willing to do anything for money? You poor, ignorant white person, how I pity you for your erroneous ideas of the Indian. That mother loves her child as dearly, as passionately, as devotedly as you do yours, and nothing would have induced her to part with it to me. It is not the mother herself who carries this child. It is some maiden friend or relative, but fig. 6 shows the actual mother of my Wallapai pet. We were good friends, and she came to my camping place several times to see me. On this occasion, her babe in her arms, tied to the wicker-work za-ki-a or cradle, she became interested and sat



FIG. 5—ONE OF THE SWEETEST LITTLE ONES IT HAS EVER
BEEN MY FORTUNE TO KNOW



FIG. 6—A WALLAPAI MOTHER AND CHILD

down. The little one was sleepy, and I was fortunate enough to catch her just at a time when the mother was lovingly and interestingly gazing down upon her. What Madonna of great master, be he Italian, Dutch, French or English, ever had more genuine adoring love in her face than has this rude, savage Wallapai of the Arizona desert? And yet until quite recently Wallapai mothers were regarded as inhuman and cruel. Instances were cited where they had slain their little ones, and this was regarded as proof positive of their want of natural affection and savage ferocity. The facts are entirely the reverse, or rather, the facts of the slaying of their children are true, but the inferences are decidedly the reverse. I have had

Wallapai mothers themselves explain the whole matter thus to me:

"In the days not long ago, before the white father took so much interest in us, the Apaches were our deadly foes. We were a scattered people. Water being so scarce, we had to establish our homes wherever a little of that precious fluid could be found, so we were unable to band together for defense. But we did have signals, so that if one family was about to be attacked they could, if possible, send a warning on ahead to protect some one else. These cruel and wicked Apaches would watch and wait until the men were gone to their work, then they would steal up secretly upon them and slay them. It was then regarded as easy work to come and take the woman away as a slave, and many Wallapai women have thus been compelled to become the wives of their hated Apache foes. But though they wanted our women for their



FIG. 7—HUNG HER UP ZA-KI-A AND ALL * *

wives they did not want our children, and would often brain them, burn them and even torture them to death. My people loved their children as much then as they do now, but what were they to do? They knew that if they attempted to escape with their children they would be caught and their little ones killed, while they themselves would be compelled to live with their captors. So they did what they thought was the best thing to do. They killed their children themselves and thus escaped, deeming it better to slay their little ones without cruel torture than to let them be captured and tortured and themselves carried away from their homes."

Heroic and frightful measures certainly, but prompted by love rather than want of natural affection.

To return now to my Wallapai madonna and her child. One day when the child was awake and bright as usual, I took her and, driving a nail into the wall, hung her up, za-ki-a and all. The mother looked on in quiet amusement, and sat interestedly gazing at the camera while I made the baby's photograph. Thus the series closes.



A SNAKE PRIEST



LANDSCAPE
by ALVIN LANGDON COBURN

Opacity in Negatives

By CHAPMAN JONES

The consideration of opacity in negatives is not so simple a matter as it may appear to be at first sight. Two thicknesses of a given film will very rarely happen to be twice as opaque as one. If one thickness transmits one-half the light that falls upon it, the second thickness will transmit one-half of the half that reaches it—that is one-quarter of the light falling upon the first. But if each thickness transmits one-tenth, then the second film will transmit only one-tenth of the tenth that it receives, or one-hundredth of the light that falls upon the first. If instead of doubling the film a double amount of silver is produced in the one film, although it is not quite the same thing, it is so nearly the same that for practical purposes the difference may be disregarded. Thus the multiplication of either the number of particles or the size of the particles in a negative will multiply its opacity to an extent that depends on the opacity of the original, as well as the amount of multiplication.

In measuring opacity it is necessary to bear in mind that much of the light that passes through an ordinary negative is scattered in all directions, as if the negative itself were a source of light. If, therefore, the arrangement used for testing, or the eye, if the negative is simply inspected, is at an appreciable distance from the negative, the negative will appear to be more opaque than it really is. In a similar way a negative acts as if it were more opaque than it really is when in an enlarging lantern, as some of the light that passes through it and would be utilized in contact printing is scattered and lost when the sensitive surface is at a distance. No instrument in which this condition is neglected, will serve to *measure* opacity. If, however, it is required to compare opacities on the same plate or on similar plates, then this loss of light by scattering may be neglected, as the same amount is lost from all parts that are of equal opacity. But the comparison of two plates of different kinds will thereby be rendered invalid. If, for example, one has a coarse-grained deposit like an ordinary negative, and the other a very fine grain like a carbon transparency, then the latter, when held up to the window, will appear to be more transparent than the other, though both may be equally transparent.

The control that one has over the opacity of negatives is both greater and less than many would have us believe. Exposure renders a certain quantity of the silver salt reducible to the metallic state by the developer. The exposure effect is definite, and any developer, properly used, of course, will give the same result if its action is carried on to the end. Development is not an action that will continue of itself after the light has started it, it comes to a definite end when the silver salt affected by the light has all been reduced. All control of opacity by development lies, therefore, in *incomplete* development, and here there is very large control, as much as ever was claimed by any practical or scientific photographer within my knowledge.

Hard developers, such as hydroquinone and restrained pyro., will develop the more illuminated parts of the negative first, and give with incomplete development a steep gradation. Other developers that bring out the whole image at once will give a flatter negative at first, though if both are continued until there is nothing more to develop the results will be practically the same. In order to get this difference the plate must be one that is capable of giving a steep gradation, and as, generally speaking, rapid plates will not, it is necessary to sacrifice speed for quality, a

fact that every practical photographer realizes. But it is also necessary that the exposure be sufficient to give the density required by a *partial* development. The old idea that under exposure leads to a hard negative or to a steep gradation, is only true of those subjects that present such great contrasts that the same exposure that gives under-exposed shadows gives much more than sufficient exposure for the high lights. If the subject is flat, under exposure will give less contrast than a generous exposure. The whole matter is easily understood by remembering that (1) the exposure fixes the limit of the development, (2) the only control in development lies in the incompleteness of development, (3) it is possible to graduate the incompleteness, its maximum being in the thinnest part of the negative, or to make the incompleteness proportional throughout. This is control in development, and while it is true that fanciful notions cannot give us more control, it is equally true that no pseudo-scientific ideas can take from us the power that we have.—*Penrose's Process Annual*.

Important Announcement

A New Departure in Photographic Journalism

The April number of CAMERA CRAFT will be of unusual interest and will be an innovation in the field of photographic journalism. It will be an Industrial Issue, and will contain articles from the pens of the most experienced photographic writers and manufacturers in the world. Especial attention will be paid to the illustrations of this number and an effort will be made to make an issue that will be accepted as authoritative on many different lines.

Although we can announce but a few of the leading articles as yet, we are in a position to say that for real live interest nothing like this number has ever appeared.

Nearly all of the manufacturers in the United States have announced their intention of taking increased advertising space, to be used in describing new products and the value of the number for this reason alone will be almost inestimable.

Although the number printed will be far in excess of the regular CAMERA CRAFT edition we are especially anxious to have all increased orders filed with us at the earliest possible moment, so that the number printed can be governed by the demand.

The number of pages will be almost three times as many as are contained in the regular CAMERA CRAFT, as the regular departments will be inserted as usual. The price of this issue will not be increased.

Death of Two Prominent Men

We regret to announce the recent death of two men prominently identified with photographic interests in San Francisco. On January 18th Professor J. J. B. Argenti passed away after a short illness. He was professor of microscopy and botany in the Pharmacy Department of the University of California, a member of the San Francisco Microscopical Society and of the California Camera Club. He was a prominent factor in the advance of science and his death creates a vacancy that will be hard to fill. The death of Morgan Backus occurred on February 3d, after an illness of several weeks. Mr. Backus was for a time associated with CAMERA CRAFT, and during its earlier life did much toward making the magazine interesting.

“Digger” Indians and the Camera

An Amateur Photographer's Experiences

By HORATIO F. STOLL

After the average amateur photographer has secured the likenesses of his friends and relatives, pictured the house pets in every conceivable pose, and snapped his favorite scenes, he generally develops a mania for character studies. It is at this stage of his photographic career that you find him ransacking the picturesque alleys of Chinatown for possible subjects; prowling about Fisherman's wharf in quest of brawny Italian fishermen mending their nets in the sunshine; wandering leisurely through the Japanese tea garden in Golden Gate Park, snapping the diminutive gardeners from the Land of the Rising Sun, or the brilliantly costumed musmee serving tea; or you may encounter him stationed at the transport dock in the hope of securing a possible Filipino or some distinguished soldier who has helped to make history in the Philippines. At all places and at all times of the day you meet him, for the enthusiastic amateur is a determined wretch who finds this sort of recreation admirable sport. And it is sport, very exciting, and one that permits you to experience all the emotions of a real huntsman—first, sighting your quarry; second, focusing your machine before he spies you; third, snapping the shutter properly at the crucial moment, and then enjoying the relaxation that sets in when you are able to laugh in your victim's face and mutter to yourself: “Well, I've got him all right, whether he likes it or not.”

San Francisco is a decidedly cosmopolitan city, and offers a wealth of such material to the amateur photographer. There is one distinctly Californian type, however, which one seldom finds in the city—the California “Digger” Indian. Only the comparatively few come in contact with our Indians in their natural environment and enjoy the thrilling experience of photographing them. The aborigines who live on the reservation have lost much of their picturesqueness by conforming to the rules of civilization, while those who till the soil or roam about are decreasing so rapidly that in another quarter of a century California will have but a few wards to care for. Therefore, pictures of these last representatives of a once populous race are not only interesting from a photographic standpoint, but in time will prove of much historical value.

This summer, while on an outing trip in Humboldt county, I came in contact with many Indians, but, inasmuch as I was enjoying their hospitality, and they showed such a pronounced aversion to being snapped, I was prevailed upon by friends to lay aside my camera when traveling about among them. I am, therefore, indebted, for the striking photographs which supplement this article, to my friend, Mr. Ericson, of Arcata, who possesses one of the most interesting collections of Indian pictures in this State.

It was through our servant, a charming half-breed girl, that we had an opportunity to win the good will of the Indians, near Orick, on Redwood creek, where we camped for a fortnight. She had no objection to our snapping her, but was very averse to our using her relatives for subjects. We found her grandmother, an aged squaw, said to be nearly a hundred years old, very amusing. Repeatedly we tried to



KAH-HAH, A WELL-KNOWN HOOPA RESERVATION CHARACTER

converse with her, but our efforts were fruitless, for her vocabulary was very limited and she did not seem to understand us. Still she greeted our every remark with a wistful, meditative "so," which, with "Ha-lo," "Eu-re-kee," "white man," "phish" (fish) and "good-by," were the only words we could positively identify in her jumble of inarticulate mutterings. This lack of knowledge of our language we found almost universal among the old, full-blooded Indians, for despite their long association with the whites, they make little effort to acquire English.

Not so with the half-breeds, however. They are all bright and anxious to learn. The men make good farmers, and are nearly all prosperous, while the women are excellent housewives and servants. It would surprise the average person, doubtless, to know that hundreds of white men in Humboldt county—"squaw men" as they are called—have taken unto themselves native wives, whose faces are tattooed with the three black stripes of their tribe. Their family life is apparently happy, and they display no embarrassment in introducing you into their homes. On the contrary, many seem to take especial pride in displaying the accomplishments of their little ones, who are generally precocious, invariably affectionate, and always polite and considerate to strangers. They all have soft, musical voices and, no matter how excited they become in their childish games, a shout or scream is seldom heard, as is the case with our youngsters.

A year ago I had an amusing experience with a promising Indian couple I met at Little River Beach, just below Trinidad. I had been warned that if I expected to secure snaps of them I must use tact, that the Indians are as sensitive as a mimosa plant and loathe a photographer. So I decided it would be best to converse with them first, inveigle myself into their good graces, and then use my camera.

Skeerit was the name of the plump little squaw. She was very swarthy and wrinkled and gray, and welcomed me with a pleasant "Hay-lo, you Trinidad?" while her youthful spouse, a thin, wiry little fellow, looked at me suspiciously from the corner of his eye as he continued to dexterously mend his fish net.

"Yes," I informed her, we had just arrived from Trinidad, and immediately she bombarded me with a volley of disconnected questions, which gave me the desired opportunity to be amiable.

As soon as Skeerit's man began to thaw out a bit, I rushed for my camera, for the sun was slowly sinking in the west and the light was getting poor.

Seated on a weather-bleached log about six feet from them, I rested my camera on my knees, without daring to focus the machine, and, to the accompaniment of a running conversation, snapped several pictures of Skeerit. Each time the shutter clicked and I turned to the next film, her spouse would look at me curiously, but apparently he did not understand.

I confess I felt a bit elated at my success with these meek Indians, and on returning to camp foolishly boasted of my remarkable tact and personal magnetism, insisting that the advice which I had received was not only superfluous but decidedly at variance with the actual facts.

Next morning when I arose and pushed back the flap of our tent, I looked toward the restless Pacific Ocean and there, seated on the self-same spot among the driftwood and huge logs, were Skeerit and her man building a fire for their morning coffee. Again the impulse to take advantage of a good opportunity seized me. I felt I must have at least one more snap at this interesting pair.

Fancy my chagrin, however, when I reached them, to find old Skeerit's face buried in her much-beflowered calico apron and her indignant little spouse ejaculating wildly and saying, "Go way. What for you take face? Why you not pay? Huh?"

For a moment I was dazed. What had caused such a transformation in these mild, gentle, little natives? Then, like a flash, it dawned upon me that I was the object of a deep-laid conspiracy—the other men of the camp had doubtless represented to the poor misguided Indians that I was a hopeless camera fiend and could easily be plucked.

Under any other circumstances I would willingly have paid for a few poses—for the Pacific Ocean and the glorious wooded mainland near Little River Beach serve as an excellent background for such pictures—but I decided that the laugh should be at the expense of my amused friends in camp, and Skeerit and her mercenary man were left severely to themselves.

This incident reminds me of a good story which is told of old Irontail, the boss chief of Colonel Cody's Wild West Show. An eminent New York sculptor asked Cody to send Irontail to his studio to pose for him. The wily old chief, rigged up in full exhibition paint, his long eagle-feather headdress trailing down his back, entered the studio with the greatest dignity, accompanied by an interpreter—although when Irontail chooses to speak English and understand, it is said that he is by no means slow.

The sculptor had been told that it would be good form to offer the noble red man one dollar when the pose was begun, and did so. The one dollar was accepted with dignified alacrity. The great chief was posed and the modeling began. After he had been standing some fifteen minutes, Irontail began to growl. He shook his head and stirred uneasily once or twice and then went over to a chair in the corner and sat down.

"Is he tired?" asked the sculptor.

"No," said the interpreter, after a brief colloquy. "He says that he fears that you make bad medicine. It is borne in upon him that a great calamity may overcome his children on the agency if this image is made like him and left here when he is gone. Clay, he says, will dry and crumble and break, and when the clay breaks, then he will go to the happy hunting grounds."

"What shall I say to him?" asked the agitated sculptor.

"Nothing," said the interpreter. "Hand him out another dollar."

At the first flash of the green bill, Irontail strode majestically back to the dais and composed his stern features for another pose. But in eight minutes more he was growling again, and in another minute marched into the corner and stood with face averted from the artist, speaking in composed words.

"He says," announced the interpreter, "that he is convinced that it is bad medicine. You mix water with the clay to make it soft. This, he says, will make his bones within him soft with water, so that he will become a very old man before his time comes and the women of his tribe will laugh at him."

"All right," said the sculptor, who knows business genius when he comes in contact with it, even though he is an artist, "here's another dollar."

The words were hardly out of his lips before the pose was resumed. This time it lasted only three minutes. The chief marched out of the studio door, and stood

in the hall to make his speech. "It is not well," he said, "that a chief of the Brule nation should allow a paleface to pinch his features into many shapes, and to slap his cheeks and to dig at his eyes. So will my enemies do to me if I suffer a paleface to do this thing. Long Hair Buffalo Bill never meant that I should suffer this indignity when he sent me to his friend. I shall tell Long Hair of this thing."

The sculptor thought the time had come to stop. He asked the interpreter to explain to the foxy Iron-tail that few artists were millionaires. Iron-tail refused to believe that any friend of Colonel Cody's could fail in princely liberality, apparently, for he insisted that he was convinced that the sculptor was full of bad medicine. At last the matter was compromised with an agreement that Iron-tail would brave bad medicine for one calendar hour without stopping.

But all Indians are not so shrewd as old Iron-tail. For example, the Washington correspondent of the New York *Tribune* says that not long ago an interesting lot of Pawnees visited the National Capital to protest against any change in the laws relating to the disposal of their allotted lands. Among them was a handsome young



A HALF-BREED BELLE



A RESERVATION GROUP

buck, who had killed his four white men in battle, and was very proud of his record. He regarded himself as a person of great dignity and importance, a very superior Indian, and when it was proposed at the Indian Bureau that he should be photographed, the valiant warrior objected and announced that he would not sit for his picture unless he was paid.

"Well, how much do you want?" asked the photographer.

The interpreter and the young Indian held a long powwow. Finally the interpreter pointed to a painting of an Indian, nearly life size, hanging on the wall in front of him and said: "Indian wants a picture of himself so large; his blanket, his feathers, his beads, and especially the marks on his face must all be colored just as they are. Then he wants a big gold frame, so wide"—measuring six or seven inches with his hands—"and two dollars and a half."

"He can get on the other side of that door pretty quick," replied the photographer, "or I'll put him out. I never heard such nonsense."

"You won't take Indian's offer?" asked the interpreter.

"Of course, I won't," said the man at the camera. "Get out of here," and he motioned the haughty brave toward the door.

"Wait a moment," pleaded the interpreter, and again there was a long powwow, after which the demand was reduced. The Indian would take a narrower frame and less money, but the photographer was obdurate. Convinced at last that his request would not be complied with, the handsome young buck straightened himself to his full, magnificent height, and, pulling his blanket about him, stepped in front of the camera, and said to the photographer: "All right, let her go. Indian not afraid."

At Trinidad, I visited the group of Indian huts early one morning in the hope of securing a few interesting snaps. My companion insisted that I reconsider my determination, but with the true instinct of a camera enthusiast, I would not listen. We came upon a thrifty squaw, named Magee, chopping wood, and before she realized what we were about, I had snapped her. But my picture-taking was brought to an

abrupt end by the appearance of her master, a blonde Scandinavian "squaw man." He looked at me menacingly, and as he was provided with another axe, which he had just sharpened, so Magee might continue her chopping, I deemed it wise to move on.

To the credit of the Indians of Humboldt county, however, it must be said that no matter how greatly they object to having their pictures taken without their consent, they never attempt to retaliate by destroying the mysterious box with which the white man torments them. The average Indian scowls fiercely and slouches away, muttering inarticulate things to himself, covers his head with his hands or coat, or tries to make the best possible bargain with you for a few poses.

It is interesting in this connection to speculate how long an Indian, armed with a camera, would be permitted to snap interesting specimens of our summer girls at the beach, our crack golfers at the Presidio links, or our humped bicyclers at the Golden Gate Park. How many pictures would he be able to secure on Market street during the course of a Saturday matinee street parade? Not many, I fear, for his camera would be snatched from his hand and trampled under foot by some indignant individual before he succeeded in walking even half a block.

Third San Francisco Photographic Salon will be Held in November

It has been definitely decided to hold the Third San Francisco Photographic Salon in the late fall of this year and the committees who will have charge of the arrangements are being organized. Mr. A. L. Coombs, who has been so prominently identified with the preceding exhibitions and who it seems is destined to the presidency of the California Camera Club for the next term, has been made chairman of the Executive Committee.

Mr. Coombs has had more to do with the success of exhibition matters in the club than any other member, and is especially well fitted for the position to which he has been appointed. He it was who engineered the interesting series of one-man exhibitions now under way at the California Club, and his administration of affairs while on the Print Committee has gained for him many friends and the well wishes of every local photographer. Mr. Coombs has served on both the previous Salon Committees and has ever been the mainstay of the club. His committee is as follows: W. E. Palmer, W. J. Street, Chas. Goe, J. W. Erwin, Dr. E. G. Eisen and Captain Robert Howe Fletcher.

The other committees have not as yet been appointed. There is a sentiment on the part of some of those interested in the salon movement to hold the exhibition down town instead of at the Mark Hopkins Institute of Art. Several reasons are advanced by those in favor of the plan, but it is doubtful if the committee will consider the matter seriously.

Although little has been said about the date of the exhibition, it is practically assured that November will be the month.

My Idea of What an Amateur Photographer Should Be

By DALE J. NOLAND

This name or title has in my opinion been sadly misdirected and it seems to me that the position Photography should hold among the fine arts, is far below what it might be if the criticising people knew what and who the amateur photographers really were. I believe that a very few, out of the great number who use this term daily, know its meaning. Are the press-button-ists, who *try* to expose properly and then leave the rest to some competent photographer, amateurs? Are even a great number of those who do their own photographic work really amateurs? Far from it. What are amateur photographers anyway? Mr. Webster, who is generally conceded as authority, defines an amateur as a person who is a lover of any one of the fine arts. The word itself is derived from the Latin word, *amo*, which means to love. Then are the press-button-ists amateurs? Not if I have the right conception of what a lover is. Does their work show that they are lovers of Photography? These press-button-ists, who have a professional do their work and expect their friends to praise them for their progress and dub them as amateurs are like a man who gets a friend, whom he considers more proficient in the art of love-making than himself, to do his courting for him and then expects the fair lady to marry him. Would you consider him a desirable lover, if you chanced to be the lady?

Just one step above the press-button-ists are the mechanical photographers: those people who get discouraged every time a plate happens to get spoiled or a mount curls into a graceful form like that of a swan's neck. These people just expose, develop, print, tone and mount; they do not take pictures; at least you would think they did not, could you see some of their productions. They see art in just a plain, matter-of-fact way like the farmer, who went to the World's Fair at Chicago, and while gazing at Raphael's "Sistine Madonna," remarked, "That's a cute kid ain't it." The great beauty of that marvelous production, to him, was lost. After the exposure they pour some of that ready-made, single solution developer over the plate and begin rocking the tray, wishing there was not so much work and bother in taking pictures. Are these lovers of Photography? If we now advance one more step we shall find another class of would-be amateurs. The inhabitants of this class enjoy the work and see some beauty in beautiful pictures, but are so afraid of spoiling a plate or incurring a little expense that they squeeze the pennies until the Indian gets black in the face. How great is their love for Photography? How many miles of tape would it take to measure it? Do not understand me to say that photographers must not be economical, for economy is a necessity, but I do say that they cannot expect much if they are downright stingy.

I have tried to tell who are not amateur photographers, now permit me to tell who and what they are. The true amateur has an artistic eye and brains, but above all he has a soul. What better definition could be found than Mr. Webster's? Then the amateur is one who loves Photography. This does not mean that he loves to make the exposure and have a professional complete the work. It does not mean that

he does his work in a careless, indifferent, mechanical way. Nor does it mean that he is afraid to spoil a plate or waste a little developer for the sake of a broader and more complete knowledge of this grand subject. The amateurs are the ideals of all who engage in the art, even the professionals. These true amateurs have raised the standard of Photography and made the professionals send out better work. They were forced to do this in order to avoid the stinging criticisms of the advanced amateurs and maintain their trade. An association is judged by the character of its members. Even though built on a strong foundation and with strong members at the head, if weak members of a lower type or class are admitted as members, the standing of that association will surely suffer.

I greatly fear that the position or standing of Photography among the list of fine arts has been lowered. This has not been brought about alone by the individuality and character of the would-be photographer, but the manufacture of cheap, worthless cameras and material has been a mighty agent in restraining the progress of Photography. The amateur disregards cheap instruments and material. The cheapest is never the best. (Don't forget that when I say amateurs, I mean the lovers of Photography.) There are few amateurs who care to use an exposure meter, as they have found experience to be the best meter obtainable. There is still a large number who use the ready-made, one-solution developer, but it is a great joy to observe that the number is rapidly decreasing. It is a characteristic of the amateur to want to know the hows, whys and results of the materials he uses, and in the way of results he has found that the results of the double or triple solution far exceed those of the dependent, one-solution developers.

Between the amateur and the non-amateur there is a great difference. Take one from each class, place them before some magnificent piece of art and you will surely observe that difference. Notice the difference in their expressions. Both will probably look at it intently for a very short time, but presently that neutral being will shift his eyes and look at the frame or take his eyes from the picture entirely. Far different with the other; his very soul seems to be pouring out through his eyes. See how the expression of his face compares with the character or nature of the picture. He is entirely unconscious of his surroundings, wandering in the land of dreams fulfilled. He is the ideal amateur. It is such as he that elevate, enliven and ennoble the art of Photography. Take this fellow into a fine camera store and again notice the expression on his face as he gazes from one instrument to another. That indefinable something within seems to swell his heart and he almost loves the instruments before him. Of such as these are the true amateurs, the lovers of Photography. Do you think the press-button-ists or the mechanical photographers have such feelings?

Some may excuse themselves, their instruments and their pictures by saying that they could afford no better. What a poor excuse. In this world any person with a will can provide a way. Among the poorer classes it may be safely said that only the true amateurs provide a way, but that way can always be found. The press-button-ist nor the mechanical worker in Photography seldom get fine instruments unless they are wealthy. They have not the will and if they should persevere that much, even then it would be impossible for them to make expenses.

Photographers' Association of America

Report of Executive Committee, Indianapolis, Indiana, January 12, 1903

By GEORGE G. HOLLOWAY, *Secretary*

Pursuant to the call of the President, J. Geo. Nussbaumer, of Buffalo, N. Y., the Executive Board of the Photographers' Association of America met in executive session at Indianapolis with the following members present: J. Geo. Nussbaumer, President; J. E. Giffin, Second Vice-President; F. R. Barrows, Treasurer and G. G. Holloway, Secretary.

Mr. C. H. Collings, the First Vice-President, having accepted a position with the Standard Dry Plate Company and not being eligible to serve on the Executive Board, tendered his resignation, and C. R. Reeves of Anderson, Ind., was appointed in his stead. The Executive Committee then organized as a whole and on motion it was decided to hold the next convention August 4th to 7th, 1903, inclusive.

The Secretary's report was as follows:

Received on 1901 account	\$197.50
Received for advertising	979.00
Received from sale of space of desks ..	1,963.25
Received on entertainment fund	100.00
Total receipts	\$3,239.75

The Treasurer's report was as follows:

Cash on hand January 1, 1902	\$4,379.54
Received from membership and dues	2,196.00
Received from Secretary	3,239.75
Received from sale of ladies' pins	50.25
Received from G. M. Edmondson	49.24
Refund—Trunk Line Traffic Association	17.00
Total	\$9,931.78
Paid on vouchers	4,755.98
Balance on hand January 1, 1903	\$5,175.89

The President appointed Geo. G. Holloway and J. E. Giffin a committee to audit the books of the Secretary and Treasurer, which were found correct and approved.

On motion, it was decided to accept the offer of Das Deutcher Haus (the German house) as the most desirable place to hold the next convention. It was also decided that the exhibition of pictures be strictly complimentary and that no prizes be offered, the committee holding that the educational features of the convention were most to be desired and that the exhibitors have a sufficient incentive in the production

of the highest type of photographic portraiture to be compared with the products of other members of the fraternity.

The President appointed the following committees:

Transportation; J. Geo. Nussbaumer and Geo. G. Holloway; Badges and Buttons, F. R. Barrows, J. G. Nussbaumer and G. G. Holloway; Hotels and Accommodations, J. E. Giffin and C. R. Reeves; Decorations and Hall, C. R. Reeves, J. E. Giffin and F. R. Barrows; *Association Review*, the Official Journal, C. R. Reeves, F. R. Barrows and Geo. G. Holloway; Entertainment, J. E. Giffin, G. G. Holloway, J. Geo. Nussbaumer and C. R. Reeves; Printing and Advertising, J. Geo. Nussbaumer and G. G. Holloway; Committee on Information, J. E. Giffin, Chairman.

The publication authorized by the association as the official journal of the Photographers' Association of America will be called the *Association Review*.

The following rules were adopted to govern the exhibition of pictures:

First—Exhibits may be framed or unframed at the discretion of the exhibitor.

Second—The association will not be responsible for any loss or damage to pictures in its charge, but special precaution will be taken by the Executive Committee to insure the safe return of all exhibits intrusted to its care.

Third—All pictures exhibited must remain until the close of convention and will not be delivered to any one but the exhibitor, without a written order.

Fourth—Applications for space in the Art Department shall be made to C. R. Reeves, First Vice-President, Anderson, Ind.

Fifth—All pictures submitted for exhibition must be addressed to C. R. Reeves, First Vice-President, care German House, Indianapolis, Ind., forwarded at owner's risk and delivered not later than August 1, 1903; all charges prepaid.

Sixth—Box covers must be screwed down instead of nailed. Home address of the photographer must be marked on the under side of cover for return of pictures. The association will not be responsible for exhibits not packed in accordance with this rule.

Seventh—Exhibits for manufacturers and dealers' department are to be shipped to Geo. G. Holloway, Secretary Photographers' Association of America, Indianapolis, Ind., care of German House. All charges must be prepaid, and pictures must be placed in position not later than August 3d.

Eighth—All boxes and packages will be accepted at any time previous to August 1st, so that exhibitors need not feel any uncertainty about the safety of their goods. No exhibit will be removed from the hall until the close of the convention.

Ninth—No manufacturer nor dealer nor their representatives shall be represented on the floor of the hall unless he or they rent floor space or desk room, and the manufacturer or dealer shall in addition pay \$2 for each representative attending the convention.

Tenth—Employees to gain admission to the convention at employees' rate (\$2) must furnish certificate from employer or be indorsed by two active members of the association.

*Eleventh—Dues shall be paid to F. R. Barrows, 1873 Dorchester avenue, Boston, Mass. Membership, \$3. Annual dues, \$2.

*By promptly paying your dues to the Treasurer you will avoid the necessity of standing in line at the box office.

CAMERA CRAFT

ISSUED MONTHLY BY

THE CAMERA CRAFT PUBLISHING COMPANY

114 GEARY STREET, SAN FRANCISCO

Edited by CARL E. ACKERMAN

VOL. VI

SAN FRANCISCO, CALIFORNIA, FEBRUARY, 1903

No. 4

California Again Ahead

Twenty-six prizes were awarded California contestants in the Eastman Progress Competition, a larger number in proportion to population than were awarded to any other State. New York secured forty-three prizes; Massachusetts, twenty-six; Pennsylvania, fourteen, and Illinois, five. All of these states have large and influential photographic publications and a population in each instance of more than three times that of California.

There are three possible explanations for this remarkable showing:

1. There are more photographers in proportion to population in California than in any other State.
2. There are better photographers in proportion to population in California than in any other State.
3. CAMERA CRAFT is published in California.

Our readers are welcome to their own deductions.

Camera Work

Those of us who for the past six years have watched the evolution of pictorial photography in America, have seen a small band of serious students and earnest workers march to victories against all that ignorance, prejudice and inborn philistinism could do; those of us who, recognizing that Photography had a future as a medium of artistic expression, rejoiced at any honest effort to realize its possibilities; those of us who care much for the end and little for the means, have one and all looked forward to the appearance of *Camera Work* with the keenest interest. Let us look back over the past five years and take note of our progress. For nearly fifty years the efforts of photographers, amateur and professional, had been almost solely directed to developing their craft as a science. The goal of their striving had been to so direct their methods that Photography should in fact hold the mirror up to nature, and that a photograph should embody absolute truth. The public believed that a photograph could not lie, and they wished to make that pretty fiction a verity. Hence arose the cult of the "perfect negative"—the deposit of pure silver in fine gelatine the gradations of which should perfectly reproduce the form and values of the original. It was and is a noble ideal. We need that negative as much as ever. There is not a branch of science that would not rejoice at its attainment. Science is the apprehension of pre-existing truth; it discovers, it does not create. Photography

to be a faithful handmaiden to science needed the perfect negative, and that became the goal of its leading votaries. May it become its fetish. It was to be perfect in a certain way—the sacrilegious hand of man must not touch its adamant surface. Its high lights must be children of the sun and know not the retoucher's pencil, its shadow, born of gloom, *sans* graver or reducer. It must be the perfect product of pure light.

Not every one maintained, or practiced, these doctrines, but they unconsciously pervaded the photographic world. They established the standard of excellence so that the amateur aspiring to honor at the annual exhibition strove ever for technical perfection, and the reputation of the great men of craft was founded thereon. But Photography was not content to serve one master; she would be the handmaiden of art as well as of science. Then the trouble commenced. For her two masters work to different ends. The goal of science is knowledge, the goal of art is emotion; and emotion, feeling, has little relation to truth. It will not be evoked by the palpably false, but it may be quite as cold to too truly true. It is not shocked by the mountain that occupies more space than rigid perspective would permit; it asks no questions about the anatomy of an angel's wing, and it does not care for the "perfect negative." This latter fact was only slowly discovered by those who endeavored to make Photography the handmaiden of art. When it first dawned upon them they were so scared that they were afraid to tell about it, and only violated the integrity of its surface in secrecy. They produced photographs that were more like pictures and then, made bold by transgression, they went to the print and did likewise. And these impure prints, children of desecrated negatives, attracted more attention at the exhibition than the work of the devout worshippers of pure Photography. So that the latter marveled and were wrath, for they said these men, whom we know not, are stealing our laurels, and when they inquired and learned the secret of their success their rage knew no bounds. They poured on them the ink bottles of their wrath and as they in most part owned the photographic press, the latter did likewise; and with few exceptions have continued so to do. Thus was born the photograph as a work of art and thus arose the need of a journal devoted to its interests.

It is of little use to rail at the stupidity of all the bitter polemics that have rent photographic circles. The battle is, in fact, over and while men have suffered, our art science is the richer. We have our old ideal of Photography as a perfect reproductive process; the handmaiden of science; a blessing beyond measure to investigator, traveler and archeologist, and we have a new ideal—Photography as the handmaiden of creative art—in no way bound to scientific rules, owning no limitations of method, and demanding that it shall be subject to no judgment outside that which governs all graphic art.

It is scarcely needful to speak in detail of the origin of *Camera Work*. We all remember how Mr. Stieglitz and his coadjutors of the New York Camera Club, at great personal expense and labor, edited *Camera Notes* as an expositor of the new ideal. How under their able leadership *Camera Notes* attained a unique position among photographic journals. How the New York Camera Club, a large and composite body, felt that only a portion of its membership was represented by a journal practically devoted to one aspect of photographic progress. How as the result of these conditions the art wing now known as the "photo secessionists," withdrew from the management of *Camera Notes* and have thrown their energy and talents into the

production of the new publication. All this is history and is entirely as it should be. The average camera club is, and must be, a composite body, and if it publish a journal the latter should represent all and not a part of its membership. We, therefore, wish all possible success to *Camera Notes*, and think that its pages should as fully represent photographic science as photographic art. On the other hand, we understand *Camera Work* to be solely representative of those who are seeking to use the camera as an instrument of *creative* art, and it is from that point that the present issue must be judged.

Criticism will naturally concern itself with the pictures and the text, and of the two the former will excite the greater interest. The illustrations of the number are, with two exceptions, devoted to the work of Mrs. Gertrude Käsebier, and we have here reproduced fine pictures which cannot fail to please every cultivated taste, "Dorothy," "The Manger," "Blessed Art Thou Among Women," "Portrait of Miss N.," "The Redman" and "Serbonne," are as varied in subject as treatment. Of these the "Manger" is a marvel. As an example of tenderness, restraint, perfect tonality and the most delicate chiaroscuro, we know of nothing greater in Photography nor would it be easy to name many finer treatments of the subject in other media. "Dorothy" and "Miss N." are photographic portraiture at its best, whilst "Blessed Art Thou Among Women" and "The Redman" are artistic and dignified treatments of their respective subjects. It is unfortunate that the same commendation cannot be given to the reproduction of the gum print entitled "Serbonne." We do not ask that the meaning of a picture shall be written across its face, but it should at least suggest. This suggests nothing but a failure at decorative composition. The atmospheric planes are muddled, the values impossible and the technique, in so far as it concerns the working of the medium, bad. It is just one of the class of prints that gave point to the epithet, "gum splodger." Besides Mrs. Käsebier's works, there is a fine picture by Mr. Stieglitz entitled "The Hand of Man," and a wonderful photograph of four young birds on a branch entitled "A Study in Natural History," by A. Radelyffe Dugmore. It exemplifies how at times scientific accuracy of detail may be associated with high artistic qualities. All these illustrations are reproduced in a manner that is entirely unique in photographic journalism. Not even the best of the work published by the same men during their editorship of *Camera Notes* can compare with the finished beauty of these pictures. They consist of photogravures on rice paper mounted with exquisite taste, and are altogether a delight.

As to the text, we have a series of well-written articles on various aspects of Photography from the standpoint of art. As the editors say, "It is not intended to make this a photographic primer, but rather a magazine for the more advanced photographer." If that be so we shall look to a discontinuance of the long polemic with the old school. The advanced photographer knows all about it, and the rest will be better convinced by works than words. With the admission of the photographic picture to the Department of Fine Arts in the coming St. Louis Exposition, with the acknowledgment of Steichen's work by the Hanging Committee of the Paris Salon, and similar recognitions of Photography as a fine art in other European art centers, the battle of the pictorialists is won. To flog the carcass of the enemy is an idle waste of energy, and is weariness of spirit to the onlooker.

We hail the advent of *Camera Work* as a triumph of American art. We feel that it has an assured future of beauty and utility, and will undoubtedly exert a potent influence on the standard of illustration of its contemporaries.

A Photographic Digest

By H. D'ARCY POWER, M. D.

The Sanger Shepherd Process of Making Color Photographs

I mentioned in a past issue that Mr. Sanger Shepherd was about to place upon the market a practical method of color Photography which would shortly be described. On the 11th of December last Mr. Shepherd gave a demonstration of the process at the London Camera Club, and to the English photographic journals, *British Journal of Photography*, the *Amateur Photographer* and *Photography*, I am indebted for the following details: To begin with three negatives are made in the ordinary way through light filters, as for the three-color process, from these negatives three colored, hard gelatine positives are made in which, as in all bichromated gelatine prints, the image stands in relief. These positives are used as printing dyes in the following manner: Each film is stained in a dye bath and whilst wet is squeegeed in contact with a gelatinized paper such as is used in carbon transfer. To this paper the position film imparts its dye; it is then stripped off and the next colored film brought into register and treated likewise, and so with the third. In this way the three-color print is produced, and the films may be used over and over again. In regard to the production of the three gelatine positive reliefs the *English Amateur Photographer* makes the following statement: "It is in no sense a reproach to Mr. Sanger Shepherd to say that many of the materials which he uses are proprietary articles, manufactured and sold by Messrs. Sanger Shepherd & Co. under various names, as, for example, 'S. S. Films' and 'sensitizing salts.' Still, the almost total absence of the inner scientific or technical details makes it a little difficult for us to speak quite definitely of his method from the chemical and physical standpoints. Apparently, however, the red and yellow films of Mr. Shepherd's ordinary triple heliochrome lantern slides are made by some modification of the Lumiere process of 1895, which depends upon the use of silver bromide in bichromated gelatine; the Ag Br serving as a means of confining the action of light to an extremely thin stratum of the gelatine, so as to give

due half tone. Messrs. Lumieres' original mixture was a 10 per cent solution of gelatine, to which 5 per cent of ammonium bichromate and from 5 to 10 per cent of emulsified silver bromide is added. This is spread on a transparent base, exposed as in the old Despaquis carbon process on mica, and development is with warm exactly like a carbon print. A gelatinous relief is thus obtained, the gradations being very obvious owing to the silver bromide. The development being finished the silver bromide is fixed out in the hypo bath, and the relief is stained by means of a suitable aniline dye. The Lumiere method of making the individual monochromes of a composite picture may be looked upon as a turning point; one especial advantage of this method being that the three individual reliefs may be assembled, and that before the final mounting all or any one may be modified by soaking out some of the color or by re-restraining. As Mr. Shepherd referred to the function of silver bromide in his developed film, it may be reasonable to suppose that in a more or less remote way his method of making the individual films depends on similar principles."

So far as the resulting picture is concerned Mr. Shepherd did not claim artistic perfection, remarking that he was as yet unable to offer his pictures to the linked ring, but *Photography* comments that "We have seen a number of examples of the process which literally, and without exaggeration, in softness, delicacy and truthfulness of tint and in freedom from imperfections of any kind whatever, leaves nothing to be desired. They were no experimental, somewhat imperfect laboratory trials, but beautiful finished prints in colors, with none of that suggestion of falsity so much three-color work manifests." This is high praise from a trustworthy source, and gives assurance that we have a cheap and simple process at our command, and as accurate as any trichromatic process is likely to be.

Unequal Illumination

In a recent issue *Photography* devotes an article to the consideration of this subject and suggests a method of correction that is

generally unknown. Unequal illumination occurs when very wide angle lenses are worked to the limit. It is dependent on the fact that the center of the plate is much nearer the lens than the edges and must, therefore, receive a much larger amount of light. It has, therefore, nothing to do with the corrections or optical properties of the lens. It can be obviated by a revolving sector in the center of the lens, which by cutting off the excess of illumination produces equality. This is the method employed in the Goerz Hyperagon lens. The same end might be obtained by a graduated screen, but special difficulties intervene. Our contemporary suggests that "an enlarged transparency be made in the camera with the same lens working as nearly as possible under the same conditions as when the original negative was made, the error will be minimized, if not corrected entirely. The greatest amount of light will pass through the corners of the negative, and in consequence of the unequal cutting off of the light by the lens, the density of the positive will be equalized to some extent. We say to some extent, for, in copying full size, the working focus of the lens will be doubled, and it will then be capable of covering a larger plate than before without such unequal lighting.

"When enlarging, the conditions approach more nearly to those existing when the negative is made, and the improvement will be greater. From the transparency the duplicate negative is made by contact.

"Few of our readers, we imagine, will go to so much trouble to obtain prints of the same size as the negative, but when enlargements from negatives having the fault under-discussion are wanted, it may be well to bear the method in mind.

"At the same time, it would be well to keep in view the important influence upon the uniformity of illumination of the plate which is exercised by the size of the stop. The larger the stop the more marked is the falling off in illumination at the corners, and for this reason, if for no other, it is well to use as small an aperture as is admissible when working a lens at a very large angle. With narrow angle lenses the defect is not likely to be troublesome, except when the mount of the lens is disproportionately long, which in modern times is seldom the case, although it used to be fairly common."

The Cinematograph Combined with the Phonograph

M. Gaumont has just arrived at a very fortunate and well-timed solution of the problem of so conjoining the cinematograph and the phonograph as to make all gestures and movements exactly correspond with spoken words, or with sounds of any kind, which may be incident to the scene; the results being interesting to a high degree. I was present at an exhibition which was veritably fantastic in its novelty. A person was speaking to an audience and explaining the action of a piece of apparatus, and the movement of the speaker's lips could be followed as he appeared to articulate the words made audible by the phonograph; the synchronism being absolute. Others have attempted to arrive at this perfection, but M. Gaumont has carried out the idea with the most complete success. He has recourse to electricity for synchronising the two distinct pieces of apparatus; hence the phonograph may be concealed behind the screen upon which the cinematographic series of images is projected, and the illusion is then so complete that one may well suppose the person represented on the screen to be really speaking.

It is not difficult to conceive how numerous may be the cases in which the phonograph can become a complement to the cinematograph. For example, while a lady of the ballet is executing a fantastic step appropriate music in exact time may add to the realism. Again, the new departure may enable the world at large to be almost as if present at notable conversations, or scenes of life and character of all kinds. It may be possible to hear and see celebrated orators in declamation time after time. For example, judges giving decisions in momentous cases, and in such cases the spectators will realize the full import of gesture and expression as adding force to words. It would be quite useless to make a long list of all the possible innovations which may be the outcome of this wonderful invention, an invention which does honor to the skill and perseverance of M. Gaumont, a gentleman always watchful for opportunities of aiding in photographic progress.—*Leon Vidal in Photography.*

Brilliant Lantern Slides

The following is an extract from an interesting paper read before the Devonport Camera Club by its honorable secretary, Mr. A. J. Catford. Mr. Catford said:

"As you are aware, ground glass, by virtue of its matt surface, possesses greater light-stopping power than plate glass, and the higher the polish of a sheet of glass the greater is its transparency. Bearing this in mind, it occurred to me when looking over some lantern slides a short time ago, that the coarseness of the gelatine surface must somewhat impair the brilliancy of the projected picture. I decided, therefore, to try the experiment of polishing the film with Mr. Baskett's globe metal polish and terebine reducer, which was described in the *Amateur Photographer* some ten months ago. Mr. Baskett's prescription, you may possibly remember, was 2 ounces of teremine, 2 ounces of salad oil and a 2-dram tin of globe metal polish, the ingredients being mixed together in a wide-mouth bottle, and then strained through muslin into another bottle.

"I rubbed a few drops of the reducer over the film with a pad of cotton wool, cleaned it off with another piece of wool, and gave a final polish with a clean piece of chamois leather. As I anticipated, the operation imparted to the gelatine a polish like glass, and the increase in brilliancy was gratifying in the extreme.

"It then occurred to me to try the effect of the mixture on an over-dense slide. I selected for the experiment a slide which had been toned in uranium, and which had gained enough density in the process to make it useless for projection. Without first removing the uranium, chemical reduction was of course impossible; and I doubt if I could, even then, have improved matters very much. Half a minute's steady rubbing with Mr. Baskett's reducer, however, was sufficient to reduce the slide to normal density, and a little additional rubbing to particularly heavy portions produced a result which was superior to anything which could have been obtained from the negative by correct exposure and development.

"As a reducer for lantern slides, I have no hesitation in placing the mixture far above anything I have tried. It does not destroy the detail in the high lights, like Farmer's reducer, nor does it rob the slide of all snap and brilliancy, like ammonium persulphate. Local reduction can easily be effected, and the process stopped at any stage, and examined by actual projection, without waiting half a day for the slide to dry. Moreover, it will do what no other reducer will—it will reduce a toned slide without affecting its color in the least.

"Speaking for myself, I shall in future consider polishing an essential operation in lantern slide making, and I fear I shall shock some gentlemen here present by doing a great deal more 'faking' than ever I did before."

Substitute for Celluloid

A consular note in the *Journal of the Society of Arts* (November 21, 1902), mentions a combination of nitro-cellulose and gelatine as promising well from a photographic point of view. Both nitro-cellulose and gelatine are soluble in glacial acetic acid, and by evaporation of the solvent, both substances remain as a transparent film, and if proper precautions are taken to remove all traces of the acetic acid, the film should be a completely inert base for the gelatino-bromide film. Consul-General Hughes of Coburg says that the material has the important advantage that it remains flat in developing. In 16 parts of glacial acetic acid are dissolved 5 parts of gelatine and 1.8 parts of nitro-cellulose. After gentle heating and stirring, 7.5 parts of alcohol are incorporated, but if the mixture is to be used for flowing upon glass to make films, further dilution is necessary.—*English Amateur Photographer*.

A New Color Sensitizer

It will interest those who are engaged in three-color processes to learn that Professor Miethe gave a lecture on the 27th of November, at the Charlottenburg Technical School, upon the advance made in this direction during the year. The interest, of course, centered in the work Professor Miethe has done, as illustrated in the German photographic press a few months ago. We have made reference to it in these columns. Dr. Miethe's results seem to have been largely dependent upon the use of ethylroth as a sensitizer, by means of which a dipped orthochromatic plate, sensitive from the infra-red to the ultra-violet, can be obtained. Not only is the plate of good keeping quality, but its sensitiveness for red exceeds that for blue, and its speed is sufficient for instantaneous exposures. The dye should be used at the strength of 1 in 50,000, and the plates should be well washed after they have been dipped. A number of lantern slides by the three-color process were shown to illustrate the sensitiveness and true rendering of these panchromatic plates. The subjects included genre studies, portraits, landscapes, a sunrise, forest glades, misty mornings, and other very effective pictures.—*British Amateur Photographer*.

Uranium Toning

One of the chief objections to uranium toning is the too frequent yellow staining of the print. According to L. Bune, as reported by *Photography*, this may be avoided by the use of separate solutions. The print is first immersed in a 2 to 5 per cent solution of potassium ferrocyanide, washed, and then transferred to a 1 per cent solution of uranium chloride.

Uranium Printing

From the same source we are made acquainted with two new uranium printing processes. The first is by coating the paper with uranium phosphate acidulated with tartaric acid, the second is by using in the same manner a 5 per cent solution of uranium bromide. In either case the print must be developed with a solution of potassium ferrocyanide.

The Latest in Gum Printing

All gum workers will hear with interest that Robert Demachy, the great apostle of this printing method and its most successful worker, is giving to the world his latest technique. The January number of the *Photogram* contains the first installment of his new views. I say new, because they differ in many points from the instructions given in his work on photo-aqua tint, which has been more or less the standard of most gum workers. I will take it as granted that these directions are known, and if not, I would refer the reader to my own paper on gum printing, *CAMERA CRAFT*, and will here summarize Mr. Demachy's new teaching:

First—The Gum Solution—White gum is unnecessary. Make a 50 per cent solution and do not add preservatives. It is better when old and acid. If it become moldy simply filter it.

Second—The Bichromate Solution—For prints that are to be water developed use a saturated solution of potassium bichromate. For brush development use equal parts of a saturated solution of ammonium bichromate and chromic acid.

Third—The Sensitive Solution—Is made or composed of two parts gum and one part bichromate solution.

Pigments—Use tube colors.

Brushes—"One hogshair brush, cylindrical and trimmed to about half its original length, for mixing the pigment with the sensitive

mixture; one flat hogshair brush for smearing the paper; two wide, flat hogshair brushes for smoothing. *I have discarded the badger softener.*"

Coating—This is the great difficulty not only of beginners, but of advanced workers when dealing with large sizes. Mr. Demachy's directions cannot be condensed, so I give them in his own words: "Coat your paper in full diffused light or bright gaslight. Place your bowl or saucer containing 10 or 15 c.c.m. (one-half ounce) of well churned pigmented gum and bichromate mixture on your left, the softeners handy on your right, your sheet of paper pinned by the upper corners on a drawing board, elbow high. Dip the smearing brush into the mixture, and smear as much as you can of the paper without taking any more of the mixture from the bowl. *If you take too much at the first dip you will never be able to get rid of it later on.* Complete the smearing, roughly, and as quickly as possible, and without stopping, take up a softener, and drag the mixture down from top to bottom of the paper with a series of strong, rapid, parallel strokes. At this stage the coating will show a quantity of downward parallel lines which must be immediately broken by a series of brush strokes at right angles with the first, from left to right and right to left, but with less force, or the ridges would simply change place without merging into one smooth plane. In appearance the film is now smooth or nearly so, but not enough in reality for practical purposes. It must now be brushed all over with decreasing force, the brush being held quite perpendicular to the surface of the film, with the extremity of the hairs just touching the paper. Now is the moment to note the state of the film. It may not have set yet. In that case it must be brushed lightly and in all directions until the brush leaves no mark upon the surface; not until it is dry, of course, but until it has taken its proper molecular state. It is a matter of perhaps 20 seconds, but the 20 seconds are important, for a caked film breaks during development. If, on the contrary, the film has set, do not disturb it, but hang your paper up to dry in a warm and dark place; absolute darkness is not necessary. A darkened room with shutters closed and no direct light falling on the paper is all that is wanted. It is better if dried quickly over a stove."

I hope to report the rest of Mr. Demachy's papers next month.

The Amateur and His Troubles

By FAYETTE J. CLUTE

Light for Portraits and Light for Landscapes

A friend came to me the other day with a peculiar difficulty. He has for some time desired to secure a picture of his own small side lawn, with its trees, shrubs and landscape effect; but containing as well the figures of his immediate household. The difficulty seemed to be that trial after trial resulted in nothing satisfactory. In one print he had secured the landscape portion most pleasingly portrayed, but the group was a sad example of screwed-up features and the usual effect of sunlight in portraiture. In another example the group was well handled as to lighting, but the landscape had lost its brilliancy and seemed flat and unattractive. While the only solution of the difficulty lies in the selection of a different position, even though less desirable, for the group; thus permitting of their being in more diffused light while the lawn is bathed in sunlight, the prints emphasized the fact that two entirely different kinds of lighting are demanded as a rule for these two classes of work. Good portraits have been taken in direct sunlight, but the cases are rare. A few landscape studies seem to demand soft lighting; but the fact remains that well defined shadows if rightly handled are the making of the major portion of our landscape pictures.

Using Up Doubtful Plates

At the close of the season I generally find that I have a few partially filled plate boxes with contents of a doubtful character. These are the result of filling one or two holders and then not marking on the outside of the box just what remains, and why. Again, in going out for some subject, I will remove the plates in the holders and substitute fresh plates or ones of a different kind. The plates in the holders go in the first box that comes handy and when again stumbled upon, their kind and condition is forgotten. In this and similar ways the stock accumulates during the summer. I am now using them up and would advise others to try my plan. Such exposures as I now make are limited to one

or two at a time. They have to be developed and as the development takes hardly long enough to pay for the trouble of getting ready, I make it a point to turn out a few transparencies from my favorite negatives and develop them at the same time. The favorite is placed in the printing frame, one of the doubtfuls placed against it and the back put in place. Holding it about four feet from the developing light I open the door of the lamp for from five to fifteen seconds, according to the density of the negative, and then develop. I now have a collection of these transparencies that represent nearly every one of my favorite negatives. Should one of the originals become damaged or broken at any time, it is but the work of a few moments to make a new negative from the transparency. Should I wish an enlarged negative for a special purpose, I have but little work to secure one from the transparency already made. All in all, I think the plan is worth even the cost of plates that are not doubtful. I found but a few of my questionable collection that were not in good condition, but at the same time I would have hesitated before filling my holders with them when going afield.

Chassagne Method

A correspondent asks if I can supply him with the names of the material employed in this exploited method of color Photography. The mordant is composed of two parts of dried egg albumen dissolved in one hundred parts of water, to which is added two parts of ammonia. This will keep but a short time, particularly in warm weather. Yellow is prepared by dissolving picric acid in water and adding an excess of ammonia, forming ammonium picrate. For red use a solution of safrin in G extra. Blue is a solution of methylene blue. The three solutions are best kept in almost a saturated condition, diluting them as required for use.

Intensifying with Mercury

Despite the fact that numerous other methods have been recommended from time to time mercury, followed by some form of blackening of the image, is still the popular

means of intensification. I have been employing this process on a number of negatives of late and think I have demonstrated, to my own satisfaction at least, that it is not always as infallible as might be supposed. I employ amidol almost exclusively in developing my bromide papers. Occasionally, in a pinch, the same agent is used on a plate. I find that plates so developed show little if any improvement under the mercuric treatment when added intensity is desired. Another peculiarity lies in the fact that fog is sometimes produced while at other times it has no inclination to make its appearance during intensification. This has been traced by others to the fact that some negatives are well washed between the developing tray and the fixing bath while others are not. As I sometimes finish development by allowing the plate to soak for some time in a tray of water while others go directly from the developer into the fixing bath, this explanation may account for the different action as regards fog. All in all, I think it advisable that the careful worker who anticipates the possibility of having to intensify any of his negatives should first determine if the negatives produced by his favorite developer respond readily to the proposed manner of intensification, as well as taking care to see that the negatives are well washed between development and fixation. Another point I believe may have no small bearing on the matter is the practice of allowing white light to reach the plates before fixation is complete. This latter point may have more to do with the causing of fog by intensification than the matter of washing between the developing and fixing of the negatives.

Handling Interiors

A friend of mine came around the other day with some prints that were intended to portray the interior of various rooms in his own residence. One in particular was most distressingly bad. He had tried it time and again with the same ill result. The subject was a most trying one with dark, heavy shadows contrasted with brilliant lighting from windows badly situated from a photographic point of view. Over and under exposure had been tried; flashlight work resulted in an unfamiliar appearance; while backed plates only cured one of the difficulties. We thought the matter over while discussing each detail as it had been gone through with in the production of the negatives. Coming to the de-

veloper I found that he had been using the usual favorite of the "snappy negative" devotee, hydroquinone. I suggested that he try the subject once more, giving what he had found to be the correct exposure, or rather the one striking the best average between the varying degrees of light and shade, and then develop with a solution composed of one part rodinal and eighty parts of water, allowing plenty of time. Should the negative come up too contrasty, adding more water. Development would no doubt extend over a period of an hour or more, but the results would perhaps justify the expenditure of that amount of time. A trial was made. The plan worked most admirably and today my friend has duplicate exposures of not only this particular interior, but of many of the others that were developed after this method. Hydroquinone is a good developer for general use, but other agents meet with the requirements of special cases much more satisfactorily.

A Hint for the Professional

There is a wise little fellow in one of the minor cities to the south of us. He is doing good portrait photography at so much a dozen. He does not come back from the annual convention impressed by a certain style of lighting and then try to get as far away from his past style of work as possible by exaggerating this effect. Even if he should make a few trials of some particularly striking methods that are new to him, he does not try to force that class of work upon his customers. He does differently. He experiments constantly in his leisure moments. In the course of his regular business he finds that he has made a negative that his experiments lead him to believe would lend itself most readily to a certain process or method. Perhaps he makes one of a series of negatives with this idea in view. Perhaps a certain subject suggests its adaptability to certain treatment. The negative is made. With the proofs is sent one that is different from the regular thing. A few graceful words explain that it was so made to test the applicability of a certain style or process that was greatly admired as the work of a leader in the last convention. It does not always succeed, but in a number of cases the plan has resulted in the successful launching of new styles in portraiture at most gratifying prices. Where the social position of the first victim of this little scheme is given attention,

there is even danger of the new productions becoming a fad. In this way this gentleman has successively introduced miniatures on positive films, shadow lighting, gum-bichromate prints and several other specialties, while his brother photographers in larger and wealthier communities deplored the fact that their patrons had no appreciation for this and that class of work. As a parting injunction: Do not make the price too low. In sending the proof make no mention of the figure at which duplicates can be supplied. It is to be inferred that the print was made experimentally for your own gratification and that it is a little beyond the regular scope of ordinary gallery work. If an inquiry should result, a good price should be named. This alone adds to the desirability of an article in the eyes of a great many people. On the same hand, it will be found that the cost of production to the small worker is really greater than it figures out on paper. An experienced photographer once told me that if he had the business to allow him to keep a regular carbon printer he could turn out that class of work at a surprisingly low figure and make money. With only an occasional order he required almost a prohibitive price in order to profit equally with work on ordinary papers. The same rule will apply in the working of any process. The actual cost of the material is most deceptive as a criterion of the cost of production of the finished work.

Cultivate the Artist

The average amateur has a deal to learn. While he is experimenting with new developers and discussing the relative merits of various types of lenses with like specimens of his class, some other individual who has never employed other than the first developing formula that he happened upon and who does not know the name of half the others, is making work that wins praise and recognition from those who are capable of judging. The whole secret lies in the better understanding of the principles of art. We are besieged in the photographic press with articles telling us that composition is such and so, that this and that rule must not be violated; but, are our teachers qualified? In many cases they are not. It is too often a case of "where all are blind, the one-eyed man is king." It is not the indiscriminate reading of this sort of instruction that will make artists of us all. It will certainly not develop that individuality that is character-

istic of all good art work. There is in every community a few persons that know art unfettered by the unconscious acceptance of the conventionalities of Photography. They will tell you bluntly that your work lacks tone values. That out-of-focus blur is not atmosphere. That detail should be suggested, not destroyed; made subordinate instead of being replaced by more obtrusive masses too far from the center of the scale. They will show you why a certain composition is pleasing while violating the conventional rules of the art writers in photographic magazines. A correspondent of mine who has won praise and encomium for his work wherever exhibited has learned his lesson from a newspaper illustrator who had the good fortune to spend a year or two within the atmosphere of an art center abroad. Another who is doing good work, as yet unpublished, worships at the shrine of a scene painter who is an educated artist even in his humble line. A third has profited by the instruction gained from a gentleman who qualified as a decorator in one of the good technical schools of Germany. I could add a few more examples, but it is hardly necessary. I only wish to call attention to the fact that one may learn more by submitting their work to an actual personality than by the absorption of pages of generalizations. I might add also that in the cases of the people mentioned above, there has been no sacrifice of individuality. Each is doing work that is characteristic. There is no imitation, no suggestion of a "school." Therein lies no small portion of the charm which their individual work possesses. Go and do likewise. Seek out the one most capable of advising that you can reach; the man who appreciates good art and understands it; not the scene painter, the decorator nor the newspaper artist particularly. These examples were but cited to show that the right persons were to be found in all walks of life. An appreciation of art and a knowledge of its underlying principles is an endowment of no particular class. The graduate of a young ladies' seminary who paints roses on a wooden plaque *may* possess some knowledge of the requirements, but it is much more likely that the one who perhaps never handled a brush but delights in studying good pictures and in reading Ruskin and Hunt, is much more capable of showing us wherein we are at fault in our work. Their advice at least can do us no harm.

Notes and Comment

Mr. Coburn's Exhibition

The work of Alvin Langdon Coburn, Boston, Mass., fellow of the photo-secession, formed the first exhibition of the year at the New York Camera Club. The series of Mission pictures made by Mr. Coburn on his recent trip through California was the leading feature of the exhibition and attracted much comment.

The Hammer Booklet

We have on several occasions called attention to the little book, "A Short Talk on Negative Making," published by the Hammer Dry Plate Company of St. Louis. We are now informed that a new issue is ready for free distribution. This interesting manual has had a large circulation and is today one of the most complete treatises on negative making in print.

A Million Dollar Improvement

One of the most recent progressive movements of Northern California is the development of Marin county and the western portion of Sonoma county, in which the North Shore Railroad is taking a conspicuous part.

A million dollars are being expended in reconstruction work on the road reaching north from Sausalito to Cazadero, and on the suburban line to San Rafael, Fairfax and Mill Valley. On the latter division the road is being broad-gauged and double tracked, and converted into a modern third-rail electric line running solid trains, not single cars. New steamers are being built to add to the company's splendid fleet of ferry boats, and magnificent terminal buildings are planned for Sausalito. The company's ferries leave San Francisco from the Union Depot, foot of Market street.

There is already a large suburban travel, but when the new facilities are ready next May, there is every reason to believe the population will increase, as the territory is the most picturesque section near the Metropolis. Up on the main line in the Russian river redwoods many people are building rustic country homes.

Development Simplified

Milton B. Punnett, the well-known chemist of the Standard Dry Plate Company, is the author of a new booklet on development just published by the Standard Dry Plate Company of Lewiston, Me. Copies can be obtained free of charge at all photographic dealers or from the publishers.

New Agfa Handbook

The pamphlet of the Actien-Gesellschaft fur Anilin-Fabrikation, Berlin, Germany, having met with a great reception in photographic circles in the United States, with a circulation of 100,000 copies, the firm has issued a new edition, of which we have a copy in hand. The tastefully bound booklet bearing the title, "Agfa-Handbook of the Agfa Developers and Specialties of the Actien-Gesellschaft fur Anilin-Fabrikation," contains in twenty-eight pages very instructive communications on the excellent Agfa developers, rodinal, eikonogen, amidol, imogen, as well as on Agfa intensifier and Agfa reducer. An abundance of well-proven formulæ and hints in connection with opinions of prominent photographers make this handbook very valuable for consumers of Agfa products and for those who intend to become such. We strongly advise all interested to procure a copy.

The Standard Photometer

We have had frequent requests for information from readers who are interested in the new Standard Photometer advertised in our pages by the Photometer Company of San Francisco.

We have made numerous experiments with the meter, which is operated on an entirely new plan, and can now assure our readers that the instrument is satisfactory in every way, and does all that is claimed for it by the makers.

In the earlier patterns marketed by the manufacturers some difficulty was experienced in procuring batteries that would last longer than sixty days, but this feature has been remedied and the batteries now used will last indefinitely.



MELBA
by ARNOLD GENTHE

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

VOL. VI

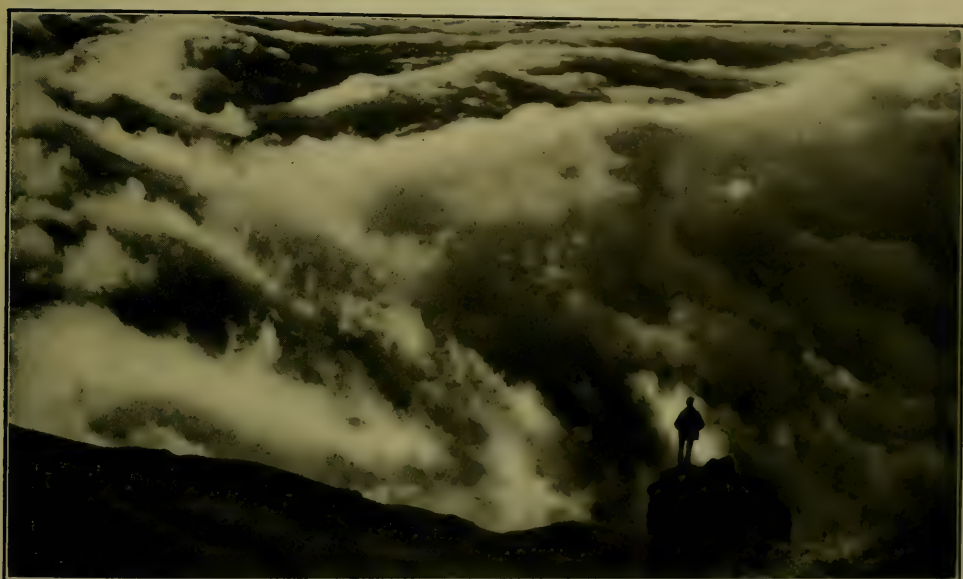
SAN FRANCISCO, CALIFORNIA, MARCH, 1903

No. 5

Cascades of the Sky

By ALEXANDER McADIE

Pictures by Otto von Bargaen



—cascades of real water

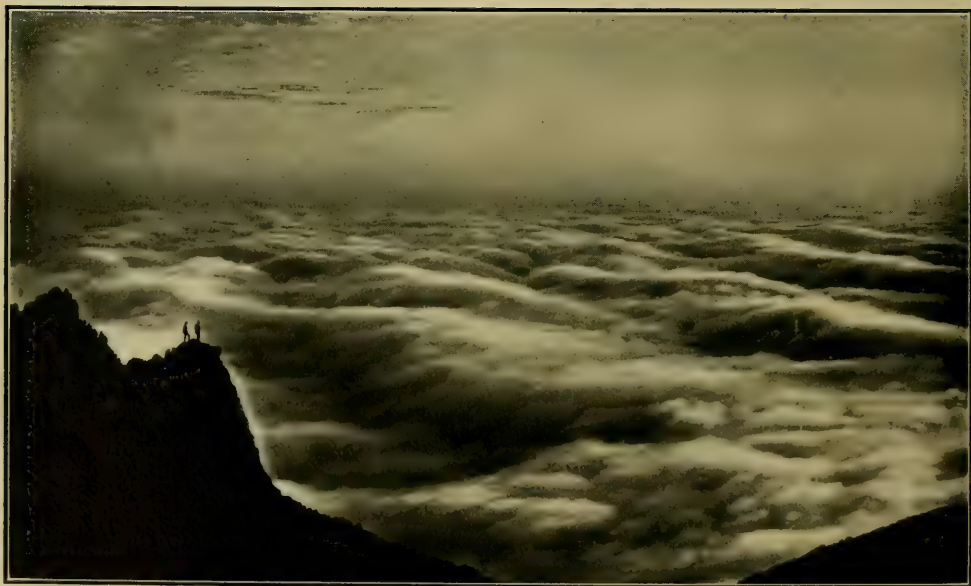
We have many noteworthy natural features on the coast near San Francisco, but although the mountains are within easy reach of the city, one must journey to the Yosemite in early summer to revel in the beauty of falling water. 'Tis true there is a cascade in the Park, but like some other waterfalls, it bears too prominently upon its rushing tide the sign-manual of the contractor. In sadder words, it is turned "on and off" by man and not by Nature.

But while the glorious downpours of the Yosemite may not be seen near the City by the Gate, there are on-rolling streams of another kind, cascades of incomparable beauty, rolling and tossing in great wave lines. One need not be either meteorologist or physicist to see in the majestic pouring of the fog over the Sausalito hills, rivers that dwarf Niagara in volume and equal it in beauty of tint and motion.

In the accompanying photographs made by one who loves to wander on the hills while it is yet early morning, Mr. Otto von Bargaen has given us some idea of these wonderful cascades on high. Standing upon the slopes of Mount Tamalpais, one



World-wide travelers have viewed the unparalleled magnificence of these seething seas of vapor in wonder and astonishment. Nowhere else in the world can such a sight be seen, and its ever-changing beauty holds the spectator even as the restless billows of the mighty Pacific. As the great folds come sweeping in from the bosom of the ocean the feeling comes, to stay on until the last curl and roll has ended—until the sun has dipped far beyond the confines of this mighty, mystic sea.



can see the upper surface of the great blanket of fog which covers San Francisco in the night hours. Comparatively few of the inhabitants of the great city know that by climbing the hills such views as are here reproduced can be obtained.

From a number of measurements which have been made by the observers of the Weather Bureau on the mountain, it appears that the thickness of the fog stratum is about 1800 feet. Some approximations of the wave lengths of these mighty billows give from 1500 to 3500 feet, while under certain strong wind conditions, the amplitudes or wave heights have been known to exceed the height of the Yosemite falls. And these are cascades of real water, differing from ordinary water or rain only in this, that the condensation has not been carried far enough. Much heat is required to steal this water from the broad breast of the Pacific; but the theft is soon detected by the watchful sentinels—the mountains—and as a first return we have the fog. The wind like a busybody assists at the first in stealing, but later helps to bring the water back. And it ruffles the sea of fog to our heart's delight. We who live near the great Gate would not have it otherwise.



THE GREAT BLANKET OF FOG

Be Loyal to Your Profession

Has it ever occurred to you that the successful attorney, physician or clergyman never loses an opportunity to praise his profession, to laud its usefulness to society and to congratulate himself upon the fact that he is an humble member of that profession? Yet it is seldom that any one hears the photographer singing the glories of his profession, of giving thanks for his membership in it. That is why an occasional photographer has reason to complain that his profession is not respected. To change this condition of affairs the photographer must be loyal to his kind and his craft.

Hurdles the Amateur Must Jump Before he Can Become Great

By H. FLORENCE OLIVER

The person who thinks is the one who succeeds, no matter what the desired end may be. It is doubly so in Photography, for two lines of thought must be followed out and so merged that the results exhibit a perfect attention to the vagaries of both.

At the first glance, Photography is alluring as a means of amusement to the pleasure seeker. At the second glance, Photography seems to consist of a series of prolonged and ever-recurrent fights between the beginner and the thing he wishes to possess. The tools used, the knowledge of art and the necessary funds to go on with the work, these appear to form a "triple alliance" of unconquerable strength. To the thinker these obstacles are friends who show to him how little he has developed the power of concentration, of *sticktoitiveness* which is seen or hidden in all men. Such a person welcomes every obstacle as a means to push him on to higher planes.

The processes followed to obtain a good photographic result, as well as those followed to express art, need much money and great knowledge. Both come after persistent effort and a hard struggle with discouragement. Hand in hand with the struggle for money and knowledge is the apparently harder one of obtaining from other men the recognition of the true worth of one's own work. There are a rare few men who have a true knowledge of justice and the rights of others fully developed in their makeup, and are, therefore, not afraid to give a worker his just due. But the majority of men are afraid to allow another the possession of that for which they worked so long. In spite of the fact that this majority toiled and struggled for success, for recognition, as long and as hard as the present man, and therefore know full well of all the bitterness of such struggle, they are just as forgetful of the beginner's need, just as ready to keep him from his goal as were "the majority" of the past.

The majority are, so it appears, afraid to allow another entrance to the charmed circle of greatness which they compose. Because a man fights hard for success in his work, he, as a rule, looks upon it as too precious a thing to share with other men; as something that cannot be shared with others. So he schemes to keep others out. There are, however, a few times when it is impossible to withhold from another what he is determined to have at any cost. At such times the majority grudgingly extend to him as little as possible of the desired thing. Some late arrival to their circle may perhaps go beyond their plane of greatness, and they then seek to destroy or devour him. They either succeed—or follow meekly after the "rash one."

Now this withholding of recognition appears to be even a greater obstacle than those of the "triple alliance"—but "all is not gold that glitters." No obstacle could be more paltry, more bullying in its appearance than this one under discussion. A little more study will convince the struggler that the seeming injustice toward himself does actually and lawfully recoil upon the giver. He also comes to see that those who would exclude another from the enjoyment of that for which he has worked long, well and deservedly do not, themselves, possess true greatness, and, therefore, cannot withhold it from him. Such men do not attract the thoughtful struggler, and as

many strugglers really attain to true greatness the former loses the enjoyment and benefit of friendship with greatness.

This is the most reasonable aspect to take of this seemingly great obstacle. Under no condition whatever allow such people to deter you from desiring, working for or possessing true greatness. If you desire greatness, say in the photographic art, it is a sure sign that it is in you to possess what you desire. Before you question this last statement ask yourself, if you have *tried* to develop this desire, and how long you have tried.

It is desire that for a while carries us into and on in Photography. Then determination sends us after a better Photography. Presently, knowledge becomes the "better half" of determination and the two bring the fulfilment of our desire. Another's recognition of our ability is very pleasant to have, but is not absolutely essential to become what we wish. In fact, it all depends upon you—the strength of your desire for something, your willingness to trust your desire, the knowledge you are willing to carry, the trust you put into your ability to do, your ability to adapt yourself to your present time and place.

There are a few just people in Photography who are willing to acknowledge that you have rights. The remainder are following some one who is "up" and can, therefore, waste no time on you. It is, really, not worth your while to make this latter class notice you, for it takes too much precious energy away from your progress. The root of all our troubles is the fact that we do not become thoroughly acquainted with ourselves, do not trust ourselves, do not dare be ourselves. So we flit about from the ideas of one man to those of another like leaves at the mercy of the wind. We go a little way in one direction only to turn for a short journey in some other, until weary of it all we cry out against our "fate," or mourn our "lost ideal." Poor fate! Poor ideal! A harlequin of others' attempts or thoughts we supposed to be "ourselves," and when it flees from us, all is lost—so we fancy.

All this is what the experienced in Photography mean when they tell us to learn the true working of one brand of plates, paper or chemicals before we go to another. When they tell us to express what we *see* when we expose a plate. When they tell us to have the best tools, put them to their best use, to do our best work, get the best out of our surroundings, to find out our best idea of beauty, to express our best in the resulting work—all means, find out what you want and be determined to have it in spite of whatever presents itself contrary to that desire.

Not for Today

Not for today ye plant the bounteous seed;

Not for today ye trim the growing flower;

Not for today ye do the noble deed,

But for the dawning of some perfect hour!

—E. I. II.

The Joys and Rewards of Cloud Photography

By JAMES H. McCORKLE

Illustrated by the writer



CUMULO-NIMBUS

Photographing clouds is probably one of the most fascinating of all the various branches of the art, and one of its chief attractions is the absolute certainty that no one will duplicate your negative. By various methods of printing it is possible to get a sunrise or sunset from the same negative, and in many cases a moonlight effect can also be procured. Cloud Photography may be divided into three classes, through the uses to which the negatives can be put.

Clouds showing beautiful formations and taken for that reason only.

Clouds as a part of a land or sea scape and used in conjunction with the view in the foreground.

Lastly, clouds taken with a view to their use in double printing with other negatives.

I shall say only a few words on the latter subject, as I do no double printing and look upon it with disfavor. Furthermore, few amateurs possess the requisite care for details, to make satisfactory double prints.

A cloud negative for use in this way should be decidedly soft and free from the great masses we so love to photograph. It should show more of the light "fleecy" clouds of a quiet summer day, and wherever possible should be taken from an elevated position, so as to show little or no foreground. The camera should point at various angles, starting nearly at the sun and swinging around the circle until the sun is almost reached again.

A hundred good negatives is not too large a stock to have if one wishes to suit his clouds to various negatives, so that the light in the sky will suit the subject.

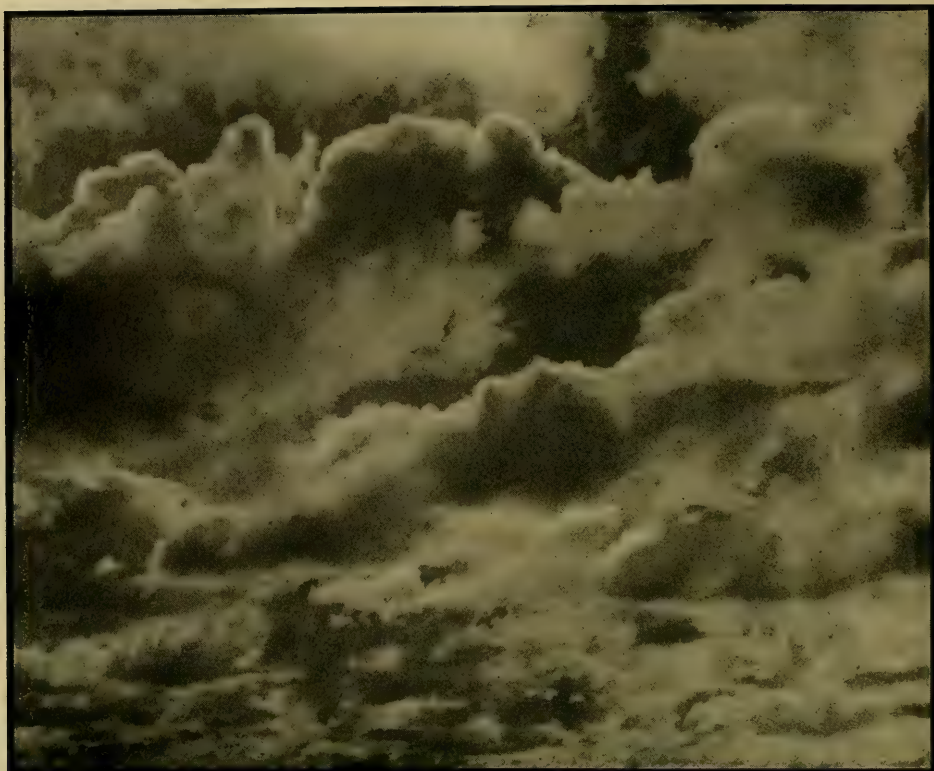
To return to clouds photographed for their own beauty of color and form. It must be borne in mind that whenever possible a simple foreground should be included, preferably one that will make a good silhouette, as this will be found just the little touch of the mysterious that is needed to add to the main subject of the picture, the clouds.



THE LITTLE TOUCH OF CLOUDS THAT MAKE THE PICTURE

The most striking cloud formations are found on very windy days, just preceding a storm, or as the storm is breaking away.

It is useless to "go gunning" for clouds; it is rather a case of wait. However, we have many days when the sky shows a possibility of giving us, not a "sitting," but a setting, then we should take our camera to some good point of view and wait for what may appear. I think, however, it will be with most of you as it has been with me, that the most beautiful cloud effects have been purely chance shots when out after other things.



EXAMPLES OF
USED FOR
(CUMULO-NIMBUS)



CLOUD PICTURES
DECORATIVE PURPOSES
(ALTO-STRATUS)



—just before sunrise

If a person is an early riser (I am not) they can get some charming cloud effects just before sunrise, and as in this special class of work the view is of minor consequence, it is not necessary to go far from home. An open field with trees on the opposite side makes a very good foreground for this sort of picture. In many cases it is possible to get these cloud pictures with just enough foreground and of such a character that the combination makes a very pleasing scene, but these chances are not common.

I will now take up the second and (to me) the most pleasing of the three classes of cloud Photography, and the one requiring the most care and patience on the part of the photographer. I don't think any of my readers will question the truth of my statement, when I say that suitable clouds in a picture are a great addition to its beauty and should be included whenever it is possible to do so. There are many difficulties, however, in getting a satisfactory negative, due to the more rapid action of the clouds on the plate. However, if the clouds are not too brilliant, a good ray screen will compensate for this.

In this class of work may be included the so-called "fake moonlights," which, as a matter of fact, are not "faked" in any way, but are a legitimate result and one that imposes on no one who is at all versed in Photography. If the camera is pointed toward the sun when it is just covered by a thin veil of cloud, the result will be a brilliant cloud effect with indistinct foreground in the negative, giving a print with strong light in the sky and a nearly black foreground. This class of work is most pleasing where a river or pond forms the foreground. With a negative of this kind and platinotype paper toned in uranium some charming pictures can be produced.

In taking landscapes where clouds are included it is not always easy to get the desired effect, but where the light is very strong I have found it a good plan (when

possible) to wait until the sun was under a cloud as the diminished light seemed to have less effect on the foreground than on the clouds.

I find that an exposure not exceeding one-fifth of a second with a screen gives the best results, and one-twenty-fifth of a second is the exposure I generally use with



—most pleasing when a river or pond forms the foreground

the lens at $f/32$. I use orthochromatic plates exclusively for this class of work and of late have used a double-coated orthoplate with success. I find two great advantages in the latter. They are non-halation, and wherever a white or black appears in any considerable mass it is given so softly as to lose any dead, pasty look. Then, too, these plates admit of much more latitude in development, reduction, intensifica-

tion and local treatment than any plates I have ever used, and with all of these advantages lose nothing in speed.

I do not advise the use of a bichromate cell for a light filter. The exposure required is too long and the lights and shades with this filter are too harsh. The clouds are great masses which seem to oppress, rather than the light effect gained by a shorter exposure with the glass screen.

A few days ago I took a snow scene with clouds, and while both the clouds and view were satisfactory separately, the combined result was a failure, and aside from some mountain scenery in the "Rockies," I have never yet seen a satisfactory snow and cloud photograph. Great care should be used in developing cloud negatives not to get them too dense. I use ortol and stop development as soon as the image is well out, and soak in water about five minutes before clearing in the hypo.

Practical Color Photography*

By ARTHUR E. TALBOYS

THIRD ARTICLE

The two processes of making positives, in transparency form, to come under consideration here, are the Sanger-Shepherd and the new Lumière N. A. These two processes are so alike that any one having practiced the one may take up the other with equal success—as though it were the same. For this reason it has been thought best to fully describe the former—the Sanger-Shepherd—and afterward to point out the slight difference between this and the Lumière.

A brief description of the process is as follows: Celluloid films are sensitized with potassium bichromate, dried and exposed under the three-color sensation negatives. These are next developed in hot water, as in the carbon process, the silver bromide dissolved out in hypo, and the three gelatinous reliefs so obtained, each stained a complementary color to that of the filter through which the negative was taken. The three prints, or monochromes, are then superposed, one upon the other, in true register, and bound between two lantern slide cover glasses.

We see that in order to obtain our final picture three positive images in clear gelatine relief have to be made, after the manner of carbon prints, and afterward stained. This process—the carbon—depends upon the property of a bichromate of an alkali to render gelatine insoluble on exposure to light. In the carbon process the support of the gelatine is generally paper. If such a piece of tissue, as it is called, be bichromated, and printed under a negative, it is plain that before development can be performed the gelatine film must be transferred to another support, so that the back of the gelatine, which is the least exposed, may be dissolved away. For our purpose the support of the gelatine (which, it should be added, contains silver bromide), is thin and transparent celluloid, and the printing is done through it. In this way the necessity for transfer is obviated. The silver bromide is another convenience, as it enables us to obtain proper gradation by gradually reducing the action of light

*This interesting series of articles began in the January number. Both January and February copies can still be obtained.—Editor.

through the film when printing, and also enables us to see what we are about when developing.

It has been stated many times that any of the rollable films are suitable for this work. As a matter of fact the majority of the many brands on the market are not, owing probably to the addition in their manufacture of chrome alum, which renders the gelatine insoluble. The proper article is made by Messrs. Sanger-Shepherd and is reasonable in price. There are two sizes, viz., $3\frac{1}{4}$ inches square and $6\frac{1}{2} \times 3\frac{1}{4}$ inches, which may be had ready sensitized or unsensitized as desired. If they be bought in the latter state, the larger size is the more convenient.

For sensitizing the films, a sensitizer is supplied, which, being neutral and in powder form, is very convenient, as it only necessitates dissolution in water, which takes place immediately, to be ready for use. If the worker chooses, however, he can buy the potassium bichromate from his local chemist and make up the following solution, which answers the same purpose:

Potassium bichromate	1 ounce
Water	24 ounces
Liquid ammonia (.880), one drop to every ounce.	

The ammonia is added to the water, and the bichromate, after being powdered, also added and dissolved, when the solution is filtered and poured into a clean dish.

One of the films is then immersed, gelatine face up, in the bath, and a tuft of cotton wool lightly passed over the surface, to remove air bells. The film remains flat, but a good supply of the solution should be used. At the end of three minutes it is removed and hung up in the dark to dry, when the sensitizing of another may be commenced.

As this drying is a very important matter, great care must be taken to allow it to take place in a room perfectly free from vapors, such as are produced by the combustion of gas, or those of any chemicals. Eight, or at most ten hours, should suffice for the drying, but no attempt to hurry it by heat should be made; the temperature must be normal. If it be desired to dry films quickly, they should be laid, face down, on a sheet of wet glass, and the surplus bichromate solution squeezed out. A very convenient plan is to dry a small wooden box before the fire, and pin each film, by the four corners, to the inner vertical sides. A cloth, loosely thrown over it, admits of its being placed in any position, or carried about from one place to another without exposure to light.

When dry, the films keep in printable condition several days if not exposed to light or damp; but usually they are at their best the day after sensitizing.

It helps us when we come to the development later on, if a "mask" or "safe-edge" be placed round each negative, so as to shield the edges of the films from light during printing. The celluloid has to go next the negative, therefore the back should be well cleaned by laying the film face down on a clean sheet of paper, and rubbing with a cloth. If the larger size films are used, these are now cut across, and a piece placed on each negative. When putting on the pads, see that they are perfectly dry, and apply the hinged back with a good pressure.

The exposure of the three films should take place together, and for the same length of time. A weak brownish image prints out, which should be examined occasionally in a weak light—of course, covering the other frames the while. With an average set of negatives I have noticed that correctly exposed films show the image

plainly marked on the celluloid side, while on the gelatine side only the deepest shadows are visible. From thirty seconds to five minutes in the shade may be required, according to the negative and the intensity of the light.

A much better way of printing is with the aid of an actinometer, preferably a quick printing one, such as Watkins' indoor meter. A simple actinometer, costing sixpence, is made out of the Watkins' disc refill. A small round hole is cut in the top, so that when the tint, which is sent out with each refill, is stuck to the inside of the lid, the sensitive paper may be exposed beside the tint. A pad under the paper keeps it in contact with the lid, and by revolving the lid fresh pieces of paper are exposed. By exposing this just before printing the films the value of the light may be ascertained. If a set of negatives required the time of one tint or more at one time, they would require the same number of tints at any other time.

When the printed films are removed from the frames, they should be marked in some way, so that each may be properly stained. This is important, because the films will be cleared before the staining operation, and it is impossible to tell the one from the other. My plan is to clip off the corners in the order of the camera exposures, as: that from the red sensation negative, one corner; that from the green sensation negative, two corners, and the other, three corners. This is easily remembered at any future time.

Development is best carried out immediately after printing, because the printing action once started, it continues, and finally the whole film becomes insoluble.

My method of developing is as follows: I take an oblong piece of flat wood having a hole 10 x 2½ inches cut in the middle, and pin the three films by the four corners, gelatine face up, over the hole. This is then immersed, films down, in an enamelled iron dish, containing water heated by means of a lamp to a temperature of 80° F., which is gradually raised to 100°. This is conducted in gaslight until the films are thoroughly wetted, when the window blind is raised, and the rest of the operation done in daylight. In two or three minutes the gelatine, unaffected by light, swells up and partly separates from the film. The wood carrying the films is gently moved about, and the water laved on to the films to assist the separation. No attempt must be made to detach any portion by means of the finger or cotton wool, for it is extremely delicate, and would probably come away where not wanted. Every few minutes the films are carefully examined by removing the wood from the bath and holding it over a dark surface. The silver bromide in the various thicknesses of the gelatine shows up every detail, and makes the watching of the development quite a simple matter. Usually I find that, with correct exposure, development takes about fifteen minutes with water at 100°. If after this time the high lights or parts that should show clear celluloid still contain gelatine, it is a sign of over exposure, and the temperature should be raised gradually until the desired result is obtained. With under exposure the reverse happens; the gelatine is over soluble and requires a lower temperature. For this reason it is well to start with a low temperature.

It is obvious that any whites in the original must be represented in the three films as clear celluloid, and if all the operations of preparing the negatives and films have been properly conducted, development is complete as soon as this is seen. But some slight error usually creeps in, and consequently, equal reduction of the gelatine in these parts does not take place. It is then better to remove them singly from the bath as this occurs. Of course the original may not contain any white. It is here that a little experience is a great advantage, as a sufficient knowledge of color is soon

acquired that enables one, by a little study of the original, to judge the proper degree of development required.

As soon as development is over, the films are passed into cold water for a few minutes to allow the gelatine to set. They are next removed from the wood, and the silver bromide—having now served its double purpose—dissolved out in a clean hypo fixing bath, in which has been dissolved a small quantity of potassium ferricyanide (red prussiate of potash). Fixing takes place rapidly, and when perfectly clear, the films are pinned to another piece of wood, and the hypo washed out in running water.

Staining the films is the next operation. This may follow the washing, or, if desired, the films can be dried and the staining done at some future time, in which case they should be soaked in water for ten minutes before the staining.

The stains supplied are concentrated, and therefore must be diluted before use. In most cases the proportion, one part stain to four parts water (preferably distilled), will be found suitable.

When the stains are ready the three films are immersed in their respective stains, the one printed from the red sensation negative, stained blue; that from the green sensation negative, pink, and the other from the blue sensation negative, yellow. The prints should be kept moving by rocking the dish, or uneven staining may result.

These solutions can be used many times over, but should be filtered through the filter bags supplied—a plug of cotton wool put into the bottom of the funnel answers very well, each time they are used. If the yellow assumes a dirty orange color, it has become alkaline, and a few drops of acetic acid should be added. The pink and blue apparently keep their color for a considerable time, if not exposed to a strong light.

There is nothing really difficult in this operation; the chief thing to bear in mind is that sufficient time should be allowed for the stain to penetrate to the back of the film. Neglect of this will certainly result in failure, as I have found out by experience. Several of my early attempts, which have since been properly stained and have proved to be almost perfect, were condemned and cast to one side through overlooking this point. If the films are over stained, as most likely they would be, a washing in plain water, or gum and water, would reduce the stain to any degree. The diagram (fig. 12) represents the enlarged section of a film, which was removed from the staining solution as soon as sufficient depth of color was obtained in the thickest portion of the gelatine A, where the shading represents the stain. The next figure represents the same film properly treated—that is, it was deeply stained and then washed down. Both figures show the same amount of stain in the thick parts (A and A1), but by comparing the thinner parts, the advantage of deeply staining and washing down is seen. Fig. 12 shows equal stain in all parts, while fig. 13 shows the stain to be proportional to the thickness of the gelatine, which is as it should be.

After the films are deeply stained, they should be placed in rough register, and the effects judged. If either, or all, be too deep in color, we have only to wash

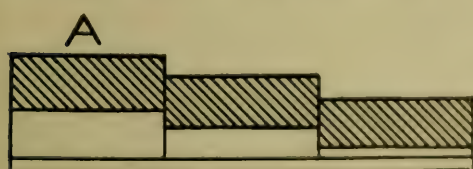


FIG. 12

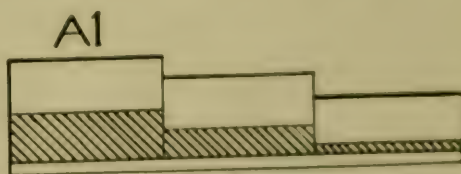


FIG. 13

down, or, if too pale, re-stain until the desired effect is obtained. In my experience, local staining and reduction are best done after the films are dry. The former is done by applying the concentrated solution on the tip of a soft brush, while the latter is done by scraping away the gelatine with a penknife.

Having stained to our satisfaction, and dried the films, a suitable mask is secured to a lantern slide cover glass and the blue monochrome centered on it, and firmly held by a clip. Next the pink monochrome is laid on the blue, in true register, and also clipped, and then the yellow on the pink. The pink print should be cut slightly smaller than the blue, and the yellow smaller than the pink, so that a piece of binding strip stuck along one edge of the three superposed prints will secure them all to the mask. Another cover glass, also carrying a mask, is then laid on the films, and bound with a binding strip in the usual way. If the result is intended for viewing purposes in the hand, a piece of finely ground glass may take the place of the second cover glass.

So far has been described what to me is the simplest, least expensive, and most satisfactory way of making transparencies and lantern slides in the colors of nature.

The Sanger-Shepherd method proper is to prepare the blue monochrome by first

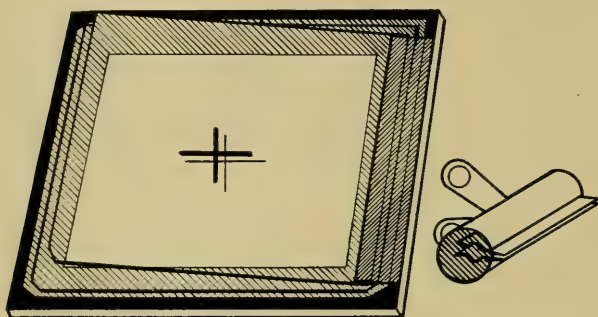


FIG. 14

making a lantern slide from the red sensation negative, and then convert it to a cyan-blue by chemical means. This is not a course to be recommended unless the worker be skilled in the art of slide making, for, when once made, the slide cannot be satisfactorily reduced or intensified as can our film, so that we

must keep making these until we get a suitable one. However, for the sake of completeness, a description of making it shall be given.

Black tone lantern plates such as Cadett's are required, and one exposed under the red sensation negative to gaslight. The exposure should be full and development carried a little further than usual, so as to obtain a good, dense, black slide with clear high lights. A suitable developer is supplied by the firm, but, of course, any other that will yield similar results may be used—metol-hydroquinone, for instance. The plate, having been developed, fixed and washed, is next bleached in a 10 per cent solution of potassium ferricyanide (red prussiate of potash), and washed for twenty minutes in running water. From this it is transferred to the converting solution, supplied by the firm, or a 1 per cent solution of ferric chloride. After one minute it is passed into water and out again immediately into a fresh hypo bath, when the image assumes its proper color. Fixing takes about two minutes, after which it is washed and placed in a weak solution of sulphuric acid, followed by another washing. When dry, it is varnished with a waterproof varnish—old celluloid films dissolved in acetone forms an excellent one—and when dry, the staining of the pink and yellow films is done as before.

The method of registering is as already described. If it be desired to cement the whole in optical contact, the pink and yellow monochromes are first varnished with crystal varnish and allowed to dry, when pools of Canada balsam are poured on

the blue, pink and yellow monochromes, and the cover glass lowered, and the whole gripped by a special wooden clip. Two days in a warm place should suffice for the balsam to set, when the surplus should be scraped away and the binding strip applied to the edges.

In the new Lumière N. A. process, the base or support of the gelatine is an extremely thin sheet of mica, $3\frac{1}{4}$ inches square. These films give very sharp images, but require care in handling. Three films are used as in the method first described, and with only one exception they are treated in precisely the same manner. Messrs. Lumière recommend the following fixing bath for the films, instead of that previously given:

Hypo	2 ounces
Schering's formalin	2 drams
Potassium ferricyanide	24 grains
Water	20 ounces

The addition of the formalin makes the after-operation of staining rather tedious—it taking about two hours to deeply stain the relief. For reducing the stain in the reliefs, the gum solution should be used. A solution of a bichromate for sensitizing is sent out by this firm, which should be used, as should also the stains, as directed on the bottles.

There is nothing to add except that extreme cleanliness must be observed throughout all the operations and great care taken that the sensitized film when dry be kept so, and not unduly exposed to the atmosphere. If it be desired to keep them a few days they should be kept under pressure in a box. In this way they will keep for ten or twelve days.

New Formulae Recommended by the Makers of Edinol

Acetonesulphite With Other Developers

The following formulæ have just been furnished CAMERA CRAFT by the Farbenfabriken of Elberfeld Company as being the latest result of their experiments:

The following formula can be made up in one or two solutions, and is recommended to the amateur as the best and most convenient general formula for all-around purposes, producing excellent results on either plates, films, gaslight printing or bromide papers. It keeps indefinitely and can be used repeatedly:

A		
100 cc.	Water	3 $\frac{1}{2}$ ounces
10 G	Sodium sulphite (des.)	150 grains
2 G	Edinol	30 grains
B		
100 cc.	Water	3 $\frac{1}{2}$ ounces
10 G	Sodium carbonate (des.)	150 grains

For plates and films take 1 ounce of A and 1 ounce of B. This may be diluted if slower development is desired. To increase contrast take more of A than of B:

to increase softness take more of B than of A. For gaslight printing paper take 1 ounce of A and 1 ounce of B, and add enough potassium bromide (10 per cent solution) to keep whites clear. This may be diluted if slower development is desired. For bromide paper take 1 ounce of A and 1 ounce of B, and add a few drops of potassium bromide (10 per cent solution). This may be diluted if slower development is desired. Over exposures, no matter how great, can be controlled perfectly by adding a few drops of acetonesulphite (50 per cent solution). For extreme under exposures take 2 ounces of A and 1 ounce of B *without diluting*.

FOR FILMS

A

100 cc.....	Water	3½ ounces
10 G.....	Sodium sulphite (des.)	150 grains
2 G.....	Edinol	30 grains

B

100 cc.....	Water	3½ ounces
10 G.....	Potassium carbonate (des.)	150 grains

Used the same as first formula. Gives stronger and more brilliant negatives.

FOR HIGH SPEED WORK

The most excellent results for high speed work and snap shots are obtained with the following:

15 cc.....	Edinol concentrated solution	½ ounce
185 cc.....	Water	6 ounces

FOR UNDER EXPOSURES

On extremely under exposed plates the greatest details can be obtained with the following:

15 cc.....	Edinol concentrated solution	½ ounce
150 cc.....	Water	5 ounces

FOR SOFT PORTRAIT NEGATIVES

1 G.....	Edinol	15 grains
10 G.....	Sodium sulphite (des.)	150 grains
1 G.....	Potassium meta bisulphite	15 grains
10 G.....	Sodium carbonate (des.)	150 grains
100 cc.....	Water	3½ ounces

FOR CONTRASTY NEGATIVES

1 G.....	Edinol	15 grains
3 G.....	Acetonesulphite-Bayer	45 grains
10 G.....	Potassium carbonate (dry)	150 grains
0.5 G.....	Potassium bromide	8 grains
100 cc.....	Water	3½ ounces

FOR OVER EXPOSURES

Dilute 1 part of edinol concentrated solution with 30 parts of water or any of the above developers (containing 15 grains edinol in 3½ ounces of water) with an equal part of water, and add 0.8 to 1 G (12 to 15 grains) of acetonesulphite-bayer.

In this solution it is possible to produce good negatives from over exposures as great as 20,000 times normal, without any fog or other unfavorable effects. Pictures taken against the sun can also be developed without solarization. In such a developer the image appears only after several minutes, the development proceeds slowly and can be interrupted before any fog sets in.

FOR BROMIDE AND GASLIGHT DEVELOPING PAPERS

TO PRODUCE VELVETY BLACK TONES

1 G.....	Edinol	15	grains
5 G.....	Acetonesulphite-Bayer	75	grains
7.5 G.....	Sodium carbonate (des.)	113	grains
100 cc.....	Water	3½	ounces

TO PRODUCE COPPER ETCHING AND RED TONES

For copper etching tones: Overprint 6 to 10 times.

For red tones: Overprint 50 times.

Then develop in the following solution:

1 G.....	Edinol, powder	15	grains
5 G.....	Acetonesulphite-Bayer	75	grains
1.75 G.....	Carbonate of Soda (des.)	26	grains
100 cc.....	Water	3½	ounces

FOR LANTERN SLIDES

2 G.....	Edinol	30	grains
30 G.....	Sodium sulphite (des.)	1	ounce
3 G.....	Hydroquinone	45	grains
1 G.....	Potassium bromide	15	grains
50 G.....	Potassium carbonate (dry)	1 2-3	ounces
1000 cc.....	Water	1	quart

or

1 G.....	Edinol	15	grains
5 G.....	Acetonesulphite-Bayer	75	grains
7.5 G.....	Sodium carbonate (des.)	113	grains
100 cc.....	Water	3½	ounces

FOR STAND DEVELOPMENT

15 cc.....	Edinol concentrated solution	4	drams
1500 cc.....	Water	50	ounces

This is an absolutely sure method of developing uncertain exposures. In this solution a normal exposure develops in about thirty minutes. Under exposures take longer and over exposures less. Negatives developed in this way are entirely free from fog and are quick, brilliant printers.

FOR TANK DEVELOPMENT

30 cc.....	Edinol concentrated solution	1	ounce
750 cc.....	Water	25	ounces

This is especially recommended for studio work or for professionals or amateurs who have a great many negatives to develop. The strength of the solution may be regulated so that development takes place in any desired time. Negatives made in this way cannot be surpassed.

ACETONESULPHITE-BAYER IN CONJUNCTION WITH VARIOUS DEVELOPING AGENTS

CONCENTRATED PYRO DEVELOPER

Especially recommended to professional photographers.

30 G.....	Acetonesulphite	1	ounce
30 G.....	Pyro	1	ounce
100 cc.....	Water	3½	ounces

This solution keeps indefinitely. For use dilute 1 ounce with 30 ounces of water. To 150 cc. (5 ounces) of dilute developer 30 cc. (1 ounce) of sodium carbonate 20 per cent solution should be added.

ORDINARY PYRO DEVELOPER

2.5 G.....	Acetonesulphite	37	grains
1 G.....	Pyro	15	grains
100 cc.....	Water	3½	ounces

For use add 25 cc. (6¼ drams) of sodium or potassium carbonate 20 per cent solution.

ORTOL DEVELOPER

2.3 G.....	Ortol	35	grains
4.6 G.....	Acetonesulphite	70	grains
10 G.....	Sodium carbonate (des.)	150	grains
300 cc.....	Water	10	ounces

AMIDOL DEVELOPER

2 G.....	Amidol	30	grains
4 G.....	Acetonesulphite	60	grains
15 G.....	Sodium sulphite (des.)	450	grains
300 cc.....	Water	10	ounces

METOL DEVELOPER

2.5 G.....	Metol	37.5	grains
5 G.....	Acetonesulphite	75	grains
14 G.....	Sodium carbonate (des.)	210	grains
300 cc.....	Water	10	ounces

METOL-HYDROQUINONE DEVELOPER

10 G.....	Acetonesulphite	150	grains
6 G.....	Metol	90	grains
2 G.....	Hydroquinone	30	grains
20 G.....	Sodium carbonate (des.)	300	grains
1200 cc.....	Water	40	ounces

EDINOL-HYDROQUINONE DEVELOPER

10 G.....	Acetonesulphite	150	grains
6 G.....	Edinol	90	grains
2 G.....	Hydroquinone	30	grains
20 G.....	Sodium carbonate (des.)	300	grains
1200 cc.....	Water	40	ounces

GLYCIN DEVELOPER

2 G.....	Acetonesulphite	30	grains
2.5 G.....	Glycin	37.5	grains
12.5 G.....	Potassium carbonate (dry)	187.5	grains
200 cc.....	Water	7	ounces

EIKONOGEN DEVELOPER

2 G.....	Acetonesulphite	30	grains
3 G.....	Eikonogen	45	grains
5 G.....	Potassium carbonate (dry)	75	grains
200 cc.....	Water	7	ounces

ADUROL DEVELOPER

5 G.....	Acetonesulphite	75	grains
2.5 G.....	Adurol	37½	grains
15 G.....	Potassium carbonate (dry)	225	grains
200 cc.....	Water	7	ounces

THREE NOTABLE
PORTRAITS OF
DISTINGUISHED
VISITORS BY
SAN FRANCISCO
PHOTOGRAPHERS

Pietro Mascagni

by George Wilcox

Edward MacDowell

by Oscar Maurer

Professor Lorenz

by Arnold Genthe

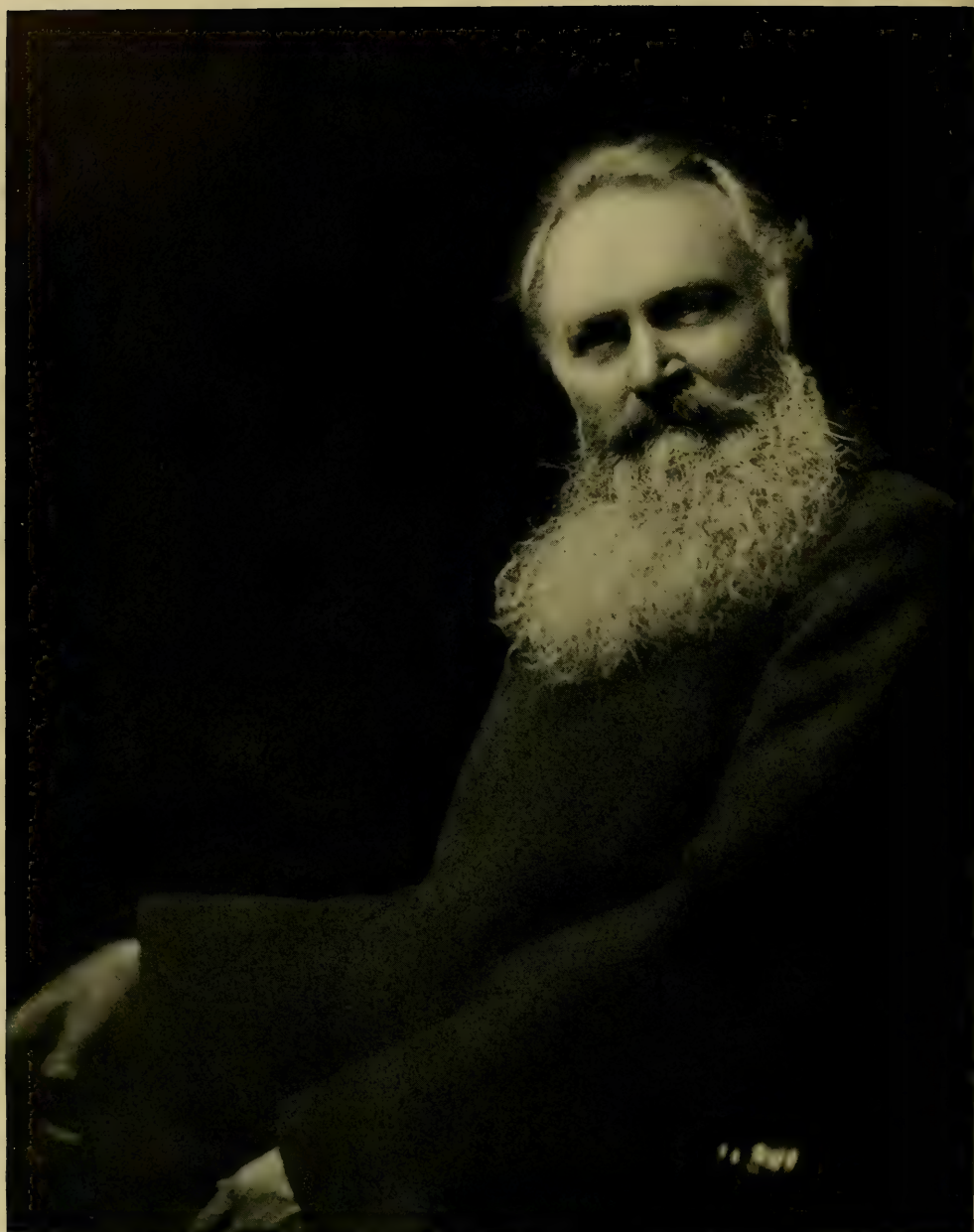


PIETRO MASCAGNI
by GEORGE WILCOX



11

EDWARD MacDOWELL
by OSCAR MAURER



PROFESSOR LORENZ
by ARNOLD GENTHE

Good Green Tones Upon Bromide Paper

PROFESSOR R. NAMIAS, in *Photography*

So many formulæ have been put forward lately for getting all kinds of colors on bromide paper that any one who thinks of doing so finds it difficult to choose which one to adopt. My original formulæ, put forward as long ago as 1894, have been reprinted frequently by one worker or another, with more or less modifications. But in some cases, as, for example, in that of blue toning with iron ferrocyanide, several workers would appear to have traveled right round to the original process again—that, to wit, in which ferric oxalate is the iron salt employed.

A toning bath which would seem to be frequently in demand, but one with which it is difficult to succeed apparently, is one giving green tones. I have tried a large number of the recipes put forward for this purpose; but the tints which they gave were far from being a good green. The only way in which I have been able to get a satisfactory result is to apply the toning solutions in the form of two separate baths, as described in Eder's "Jahrbuch," 1901, page 171.

In this process, the image is first bleached in a 5 per cent bath of potassium ferri-cyanide, and is then transformed into the double ferrocyanide of iron and vanadium by employing as the second bath a mixture of ferric chloride and vanadium chloride. As iron ferrocyanide is blue, and vanadium ferrocyanide is yellow, a mixture of the two chlorides in suitable proportions may be made to give us just the kind of green we require.

I have tried a number of these mixtures, and the following formula is one that has given me the best green tones I have obtained up to now; far and away better than those I have been able to get by any other process:

Iron perchloride	18 grains
Vanadium chloride	15 grains
Ammonium chloride	36 grains
Pure hydrochloric acid	40 drops
Water	8 ounces

In order to facilitate the solution of the vanadium salt, it ought to be dissolved first in a little warm water, adding thereto the hydrochloric acid and then the other solids, finally diluting the solution so obtained to the prescribed degree with water.

The Big Industrial Number

The announcement made by CAMERA CRAFT last month to the effect that an Industrial Number with unusually interesting features was in course of preparation has aroused the utmost interest and if the congratulatory letters recently received by the editor is any indication, this issue of the magazine will be one of the most popular innovations in recent photographic journalism.

The issue will be published on April 1st, and will include all of the regular features, the size of the magazine being greatly enlarged to cover the additional field. Some of the ablest writers in the business are preparing material for the issue, and our engraving department is already at work upon the numerous engravings destined to make this number one that will make it prized for months to come.

CAMERA CRAFT

ISSUED MONTHLY BY

THE CAMERA CRAFT PUBLISHING COMPANY

114 GEARY STREET, SAN FRANCISCO

Edited by CARL E. ACKERMAN

VOL. VI

SAN FRANCISCO, CALIFORNIA, MARCH, 1903

No. 5

The Next Convention

It is evident that the next meeting of the Photographers' Association of America will be record breaking in point of attendance and interest on the part of the photographers. The new secretary, Mr. G. G. Holloway, has already started to stir up enthusiasm and the photographic press is ably seconding the movement. When President Nussbaumer raps his gavel in Das Deutcher Haus on August 4th he will call to order a convention destined to make history. Especial attention is being paid to the selection of subjects and speakers and every effort is being expended to include in the programme only the very best of both. Nothing old or hackneyed will be permitted to come before the meetings, and the speakers will be asked to confine themselves to brief descriptions of new processes, methods and short dissertations on art and kindred subjects.

Already the small boom started by St. Louis for the next convention has subsided, the fact that the Louisiana Purchase Exposition will then be under way militating against this movement. California stands in line for the next convention, and as many California photographers will attend the meeting in Indianapolis it is almost a foregone conclusion that the Pacific Coast will see the photographers of the country assembled in convention on its own shores in 1904.

The Salon of 1903

The failure of the Chicago Salon to attract the attention it should have from the photographers of the United States is due to two causes. In the first place, the same stereotyped method was used in calling the attention of photographers to the exhibition, the advertising being at best, commonplace. As a further incentive toward mediocracy, the Stieglitz following was given the customary treatment and as this following increased wonderfully during the twelve months preceding the show, the effect was almost fatal. A few scattering exhibitors of independent persuasion sent pictures and the rest of the exhibition was largely composed of work by Chicago photographers—work that has never reached a plane that would justify favorable criticism from any other than Dundas Todd.

The management of the Third San Francisco Salon should profit by the mistakes of the Chicago show, and in doing so place their exhibition on a better basis than any former salon held in the United States. Stieglitz and his fellows should

be invited to send a collection of pictures without reference to submission to the Jury of Selection, leaving the choice of pictures to this acknowledged leader. With this foundation an effort should be made to interest prominent foreign workers on similar lines. In this manner a nucleus will be formed and to which additions can be made from the best of the other work submitted. If the number of pictures thus obtained is greater than has yet been hung at an exhibition, so much the better. CAMERA CRAFT has frequently discouraged the theory that a small exhibition is necessarily a good one. Let us get as many good pictures as we can; there is plenty of space in which to hang them.

The exhibition should be well advertised, not in the conventional manner, but with forceful arguments and personal appeals to men who have earned a reputation for the worth of their productions.

We cannot afford to see the exhibition movement decline. It should grow each year more interesting, and there is no reason why the salon of 1903 cannot go down in history as an epoch-making exhibition.

The Growth of Illustration

During the past few months over a dozen newspapers on the Pacific Coast have installed complete engraving plants for the reproduction of pictures of current happenings, and as many more, spurred by the efforts of their rivals in business, are considering the advisability of following suit. The illustrated newspaper in large towns has long since become a fixture, but now the movement has extended to the towns of small degree and there is no telling when the wave will stop.

All of these innovations will be welcomed by photographers, for they offer new outlets for their pictures.

Save Time

It takes just as long to expose, develop and print a poor picture as a good one, yet thousands of amateurs spend their time in making poor pictures for the reason that they hurry the most important operation in picture making—the selection of the picture. More care exercised at this point will, in the end, save time and tend to make the life of the amateur photographer happy. We are moved to make these remarks because of the recent receipt of numbers of pictures made in record time. The photographers were undoubtedly actuated by a paragraph going the rounds of the photographic press to the effect that a New York photographer recently made a finished print from a negative taken just six minutes before. While it is interesting to know the possibilities of Photography in this direction, there is no possible excuse for making uninteresting pictures merely to demonstrate how quickly they can be made.

Pictures of Trees

CAMERA CRAFT wishes to procure pictures of trees, singly and in the forest, for use in illustrating an article.

Trichromatic Photography

By E. J. WALL, in the *British Journal of Photography*

At the time of the issue of the first edition of this work* by Freiherr von Hubl, a digest of it was given in the *British Journal of Photography* by A. D. Pretzl. A second edition has just been published, and whilst the theoretical portions have been much elaborated, it is hardly necessary to recapitulate them, but a digest of the practical portion, which presents many new features, may be of interest to three-color workers. As a matter of fact, the instructions for the sensitizing of the plates and the manufacture of the color filters is almost entirely new. To all three-color workers this book is especially valuable, because, besides the extremely elaborate theoretical explanations, the practical portion is very lucid, and at the end of the book is a color chart, with which any one may easily adjust the filters, as precise directions are given as to how the colors should be rendered, and half-tone reproductions of the results to be attained are also given.

The author strongly supports the use of three different plates, and to ensure the same gradation in all the negatives, suggests the use of a scale of five gray tints, prepared by exposing platinotype paper under a photometer, made with tissue paper. The rendering of these tints should be alike in all three. This scale is also useful in that it enables one to obtain, under given conditions of illumination, a correct guide as to the relative exposures, as it is only necessary to photograph the scale through the three filters, till it is correctly rendered in each.

As in the first edition, the practical work is directed for the reproduction of colors by means of two systems; the one with the theoretically correct inks, crimson, yellow and peacock blue, which can alone be used for superimposed stained films, because as printing inks the colors are not stable in light, and the second process, in which crimson, yellow and blue inks are used. The theoretically correct inks are cadmium yellow for the yellow, nightrose for the crimson, and a mixture of peacock blue and viridian green for the blue. For the transparent film colors, naphthol yellow, erythrosine, and fast green should be used. For the incorrect but

stable inks, cadmium yellow, krapp lake (an alizarine color), and Paris blue.

The use of liquid as well as dry filters is suggested, and Hubl points out that with filters used with lenses of not more than 24 c. m. focus, there is no necessity for the glass to be optically polished, but with long focus lenses this is a necessity, and that even then it may affect the definition. He also points out that the filter may be used close to the plate, and that then a dry plate, freed from its silver salts, may be used. To make the dry filters, plate glass should be coated with a 5 per cent solution of gelatine, and stained when dry, and the filters should be sealed to another glass with Canada balsam.

THE THEORETICALLY CORRECT PROCESS

The yellow printing plate.—The sensitiveness of this plate should be between F and G, and fall off toward E and H, and an ordinary plate without a filter may be used, but it is always advisable to use a filter of Hochst's new blue solution, 1:5000 in a thickness of 5 m. m. For the dry filter a gelatinized plate should be stained in the same solution, acidified with acetic acid. The dry filter must be of the same intensity of coloring as the liquid filter when examined against white paper.

A wet collodion plate may be used without any sensitizer, but with collodion emulsion, which is deficient in blue-green sensitiveness, a sensitizer as below must be used. Commercial collodion emulsion, or a bromo-chloride emulsion, or Hubl's emulsion with codein, may be used. The sensitizer is acridine NO (Leonhardt & Co., Muhlheim), 1:150 alcohol, and from 5 to 10 per cent added to the emulsion. The colored emulsion will keep well. For very long exposures the coated plate should be bathed, when set, in 1 part of cold saturated solution of borax and 3 parts of water.

The red printing plate.—The sensitiveness of this plate should extend from D to F $\frac{1}{2}$ G, with a maximum in the yellowish green.

A commercial orthochromatic or panchromatic plate may be used, but the former is less suitable because it shows a minimum between E and F, but this can be corrected by the filter, which is:

Acid green, 1:150 5 c.c.m.
Potassium bichromate, 1:75...150 c.c.m.

*"Die Dreifarbenphotographie." Arthur Freiherr von Hubl. Published by Wilhelm Knapp, Halle a S.

Cell thickness, 5 m. m. For a dry filter the gelatinized glass should be stained in the following:

*Fast green, bluish, 1:200	15 c.c.m.
Naphthol yellow S. L., 1:200	25 c.c.m.
Methyl orange, 1:400	30 c.c.m.
Water	100 c.c.m.
Alcohol	20 c.c.m.
Glacial acetic acid	5 drops

Although the filter may be dyed in the above bath, it is preferable to stain one glass with the green and another with the yellow and orange, as this facilitates the correction of the saturation of the color; if blue is rendered too light the yellow plate may be more deeply stained, or if orange is too dark, then the green may be lightened, or vice versa.

It is frequently advisable, especially for large plates, to expose wet, and then an ordinary plate† should be immersed for five minutes in the following solution, then rinsed and exposed:

Water	1000 c.c.m.
Uranine solution, 1:150	25 c.c.m.
Erythrosine solution, 1:150	6 c.c.m.
Ammonia	10 c.c.m.
Silver nitrate solution, 1:10	2 c.c.m.

The filter for this is picric acid, 1:500; cell thickness, 5 m. m.

For collodion emulsion, the sensitizer is:

Yellowish eosine, 1:150	30 c.c.m.
Rose Bengal, 1:150	10 c.c.m.

Two per cent of this mixture should be added to the plain collodion emulsion, and the plate, after setting, should be bathed in a 0.5 per cent solution of silver nitrate, and exposed wet, behind a 1:500 picric acid solution, cell thickness, 5 m. m., or a dry filter stained with naphthol yellow S. Commercial collodion emulsion with neutral eoside of silver may be used, such as Alberts' or Brend 'Amour's, behind the same filters.

The blue printing plate.—The sensitiveness for this should be principally at C, and fade off slowly toward D, and more sharply to E.

The commercial red sensitive or panchromatic plates are very suitable, and as a liquid filter should be used:

Biebrich scarlet, 1:1000	6 c.c.m.
Aurantia, 1:1000	10 c.c.m.

*This is sometimes called "Real green;" the correct name is *Echtgrün bläulich*, and it can be obtained from Bayer & Co. Special attention should be paid to obtaining the exact dyes, as different dyes frequently bear the same commercial names.—E. J. W.

†Hubl states that plates sensitized with ethyl red, the new dye discovered by r. Miethe, are very suitable, but its use is the subject of a patent.

Cell thickness, 5 m. m. For a dry filter the following stain should be used, and the plate should be as intense as the above liquid:

Biebrich scarlet, 1:200	40 c.c.m.
Naphthol yellow, S. L., 1:200	10 c.c.m.
Methyl orange, 1:400	10 c.c.m.
Water	200 c.c.m.
Alcohol	40 c.c.m.
Glacial acetic acid	10 drops

To sensitize a plate for the blue printing either of the following may be used, and the latter formula gives a plate that surpasses all commercial ones in red sensitiveness:

Glycin red, 1:500	20 c.c.m.
Chinoline red, 1:500	20 c.c.m.
Alcohol	50 c.c.m.
Water	100 c.c.m.

Allow this to stand for some hours, and add:

Cyanine, 1:500	1 c.c.m.
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and then filter. The solution should be quite clear and a violet color. Add:

Alcohol	100 c.c.m.
Water	200 c.c.m.
Cyanine, 1:500	1 c.c.m.
Ammonia	5 c.c.m.

The plates should be immersed for $1\frac{1}{2}$ to 2 minutes, rinsed for 2 minutes under a tap, again rinsed with distilled water in a dish, and then dried.

The second formula is:

Water	1000 c.c.m.
Alcohol	300 c.c.m.
Cyanine solution, 1:500	5 c.c.m.

to which add some ammonia or cold saturated borax solution. It is best to expose the plates wet, but if they are to be used dry the water should be replaced with a 10 per cent solution of dextrine. These plates will only keep for about eight days.

THE STAINED FILM PROCESS

For this, as is well known, bromide emulsion is coated on celluloid or mica, and sensitized with bichromate, and then printed and developed, the bromide dissolved out, and the films stained and superimposed.

Hubl suggests the proportion of from 10 to 12 grammes of silver nitrate to every 30 grammes of gelatine, and points out that the emulsion may be prepared in daylight.

The celluloid or mica should be sensitized by complete immersion for fifteen minutes in a 2 per cent solution of ammonium bichromate, excess of solution should be removed by fluffless blotting paper, and the films dried in the dark, and this should not take more than one or two hours, and the films will not keep more than a day or two. The back should be well cleaned and placed in contact with the negative, and printing done in the

shade. Development is effected in warm water, and then the silver bromide removed by hypo and ferridecyanide, and the film should be well washed and either stained at once or it may be dried.

The dyes used for the pictures are erythrosine, naphthol yellow S. L. (Aktiengesellschaft für Chemische Industrie, Basle), and bluish fast green; these should be prepared as stock solutions, 1:200 the first in neutral solution, the others acidified. The actual dye baths are:

FOR THE RED MONOCHROME

Water	100 c.c.m.
Erythrosine solution	5 c.c.m.
Alcohol	10 c.c.m.

FOR THE BLUE MONOCHROME

Water	100 c.c.m.
Fast green solution	20 c.c.m.
Alcohol	10 c.c.m.
Glacial acetic acid	10 drops

FOR THE YELLOW MONOCHROME

Water	100 c.c.m.
Naphthol yellow S. L. solution	10 c.c.m.
Alcohol	10 c.c.m.
Glacial acetic acid	10 drops
Saturated chrome alum solution	5 c.c.m.

If a deeper yellow is required, from 5 to 10 c.c.m. of a 1:200 solution of methyl orange should be added to the last dye bath.

The films should be left in the dye baths for some hours, the more concentrated the baths the quicker they act, but the flatter the pictures, whilst with very dilute baths the pictures are very brilliant. Soaking the stained prints in water or preferably dilute borax solution will reduce the depth of coloring. An estimation as to the correct coloring cannot be made till the prints are dry, as the red and blue prints dry of a slightly different tint. After staining, the prints should be drained and immersed in:

Water	1000 c.c.m.
Alcohol	100 c.c.m.
Glacial acetic acid	10 c.c.m.

which removes any superfluous dye. If mica plates are used, then 50 c.c.m. of glycerine should be added to the above. The finished monochromes may be fitted together and bound round the edges with binding stripes, or cemented with Canada balsam, thinned with petroleum benzine, and in the latter case the colors are more lively.

THE THEORETICALLY INCORRECT BUT STABLE INK PROCESS

The yellow printing plate.—The sensitiveness of this plate must extend from about bl-3F to H, with a maximum at F $\frac{1}{2}$ G.

An ordinary gelatine plate should be used

with a liquid filter of methyl violet 1:10,000; cell thickness 5 m.m., or a dry filter stained in this solution, rendered faintly alkaline, to the same depth.

A collodion emulsion or wet plate may be used without a filter.

The negative for the red printing plate.—The sensitiveness for this plate should extend from D $\frac{1}{2}$ E to F, in almost equal sensitiveness. Commercial orthochromatic plates show a distinct minimum from b to F, but they answer satisfactorily if a deep green filter be used such as:

Acid green, 1:150	2 c.c.m.
Picric acid, 1:100	40 c.c.m.

Cell thickness, 5 m.m. For a dry filter the staining solution is:

Fast green, bluish, 1:200	30 c.c.m.
Naphthol yellow, S. L., 1:200	45 c.c.m.
Alcohol	40 c.c.m.
Water	200 c.c.m.
Glacial acetic acid	10 drops

The same remarks apply to the construction of this filter as to that given above.

Far better results are given with an ethyl red plate with a green filter of slightly bluer shade, and excellent results are also obtained by using the plate sensitized with uranine, as described above, and exposed wet, with a green filter.

For collodion emulsion the sensitizer is:

Yellowish eosine, 1:150	10 c.c.m.
Uranine, 1:150	30 c.c.m.

And the plate should be bathed in a 0.5 per cent solution of silver nitrate. Filter picric acid 1:10,000 or a dry filter stained with naphthol yellow S. Excellent results are obtainable with commercial collodion emulsion, such as Albert's and Brend'Amour, which are sensitized with silver eoside solution.

The negative for the blue plate.—The sensitiveness for this plate should have a maximum in the orange, and fade off to the blue green.

Dry plates sensitized as described above with chinolin-glycin-cyanine or cyanine alone, with the biebrich scarlet and aurantia filter, or the corresponding dry filter, and the red sensitive and panchromatic commercial plates may be used.

Collodion emulsion sensitized with cyanine, or rose bengal, cykamin or Rhodamine 3 B, or Albert's emulsion with R dye may be also used, the first with a bright orange filter; the latter requiring a deeper filter such as:

Aurantia, 1:1000	10 c.c.m.
Biebrich scarlet, 1:1000	10 c.c.m.

Or a similarly stained dry filter.

A Photographic Digest

By H. D'ARCY POWER, M. D.

Edinol

I am not much given to playing with new developers, having a comfortable feeling that pyro soda has not yet been beaten and is good enough for me. Still, when I have a lot of work to do I have occasionally to confess to pyro fingers—and to a medical man they are more than awkward. So recently I was tempted into trying edinol with acetonesulphite. Now, while I am by no means prepared to give up my old love, I have to admit that edinol is a wonderful developer, and is the cleanest working chemical I have yet met. I had two 11x14 groups to develop which were very badly under exposed, which, however, I did not know until I failed to see a trace of anything on the plate until fifteen minutes had elapsed. I thought the case hopeless, put a cover over the tray and went out visiting. Four hours later I returned and found my plates well developed with a fair amount of detail and not a trace of fog. This is only a confirmation of what has been claimed for it. As a developer for lantern slides I find it excellent. But instead of using the stock solution with twenty parts of water, as recommended by the makers, I have had better results with one in ten. With Velox paper I did not get good results; it came up too slowly and was dirty in color. I see that this experience is confirmed by Tharne Baker in the *English Amateur Photographer*, who, however, claims to get excellent results with the following formula

Edinol	15 grains
Acetone sulphite	15 grains
Sodium carbonate, crystals...	90 grains
Water	4 ounces

For fast bromide papers this writer recommends:

Edinol	15 grains
Acetone sulphite	22 grains
Sodium carbonate, crystals...	105 grains
Pot. brom., 10 per cent sol....	5 drops
Water	4 ounces

Simultaneous Development and Fixation

Dealing with this subject in Photography Mr. Tharne Baker states that edinol (like pyrocatechin) is well adapted for this pur-

pose and he gives the following formula. Stock solution, keeping indefinitely:

Sodium hyposulphite	60 grains
Acetone sulphite	250 grains
Caustic potash	130 grains
Water	4 ounces

Immediately before use add 5 grains of edinol. The image will flash up instantly and fix out in about 15 minutes.

Acetonesulphite

Speaking of edinol naturally leads to acetonesulphite. This salt, as most of my readers know, is a substitute for sodium sulphite, having the advantage over that chemical of being much more powerful as a preservative, and the disadvantage that, allowing for the smaller quantity used, it is relatively more expensive. But acetonesulphite is not only a preservative, but a powerful restrainer by whose action over exposure is quite overcome. A writer in *Apollo* (reported in *English Amateur Photographer*) has been carefully investigating the whole subject of over exposure and reversal, and here are some of his results: Using rapid plates and a 1 per cent edinol developer with 10 per cent each of sodium sulphite and carbonate he found that 100 times the normal exposure produced a weak fogged negative; that 200 times caused reversal of the high lights; that 500 times gave a weak positive and 1000 times a dense positive, that is, complete reversal. If, however, 2 per cent of acetonesulphite were added to this developer, the tendency to reversal was so overcome that 1000 times the normal exposure still yielded a negative image, though a weak one; and not until the exposure was 12,000 times the normal did a weak positive appear. The writer also obtained a like result by using the same quantity of potassium meta bisulphite in place of the acetonesulphite.

Quick Drying of Carbon Tissue

R. Blochmann writing in the *Photographische Rundschau* strongly recommends the use of alcohol in the drying of sensitized carbon tissue. He maintains that not only is it thus possible to sensitize the tissue and print two hours later, but that development

is greatly facilitated, and may be completed at a much lower temperature, thus minimizing the danger of blisters.

The Platinizing of Bromide Prints

A paper of no little importance was recently read by Mr. C. Winthrope Sommerville before the Royal Photographic Society in which the author tells how he sought to impart to bromide prints indestructibility and a sepia tint. He experimented with Vogel's formula, which is to tone the bromide in a bath of

Potassium chloroplatinite	5 grains
Hydrochloric acid	10 minims
Water	ounces

and found that the image, a fine black, while resistant to reducers, was nevertheless but partially platinum; moreover, it was black, and Mr. Sommerville wanted sepia. It is not necessary to follow the author through all his experiments and deductions, but he obtained the sepia tone and a very considerable but not complete substitution of platinum for silver by the use of the following bath:

Potassium chloroplatinite	1 grain
Mercuric chloride	1 grain
Citric acid	9 grains
Water	1 ounce

This has a slight tendency to stain the gelatine, which may be overcome by the addition of three drops of 10 per cent potassium bromide.

A New Journal Coming

Pictorial photography will soon have a full journalistic representation. To the *Camera Work* in America—the *Photographic Art Journal* in England—a journal in preparation by Herr Juhl in Germany, is now to be added the announcement of a monthly edited by M. M. Demachy, Puyo and Bougeois, to be called the *Revue de Photographie*. These gentlemen are so well known to the photographic world that their publication will be looked forward to with much expectancy. Moreover, France needs such a journal, for, strange to say, the photographic publications of the Latin countries are absorbed in technics to the exclusion of the art side of our craft.

Rapid Development With Two Developers

A. M. Coupât, writing in the *Photo Revue*, relates an interesting experience that may have useful applications. Without going into the details of an accidental discovery this

writer avers that if a greatly under exposed bromide print be immersed in a weak deamido phenol developer for fifteen minutes, then washed and put in a weak oxalate of iron developer a good and strong print will be obtained, such could not be produced by either developer alone. A reversal of the order of development produced fogging. In the case of greatly under exposed plates this discovery might turn out valuable.

Development of Solio Paper

M. Naudet, writing in *Le Photogramme*, gives some practical directions for the development of papers of the Solio class. First as to exposure he states that under exposure yields flat prints; full exposure, warm tones. It is needful to avoid the action of direct light on the paper before development. The prints are not to be washed, but placed in a dish and developed singly, using fresh developer for each print, after which they are fixed in a 15 per cent hypo bath, or if the color is not liked, in a combined toning and fixing bath, M. Naudet gives the choice of three different developers, and says that the whites are improved by the addition of a little glycerine or gum arabic solution. The formulæ are as follows:

FIRST

Gallie acid	3 grains
Sodium acetate	7 grains
Water	4 ounces

SECOND

Pyro	20 grains
Water	4 ounces
Acidify with acetic acid.	

THIRD

Hydrochinone	10 grains
Citric acid	20 grains
Water	4 ounces

Tri-color Lantern Slides

Mr. F. Hollingworth, writing in *Photography*, gives the following information as to how the special positive films may be dispensed with:

Many amateurs would like to produce lantern slides in three-color work, but are deterred from attempting it in consequence of, first, the cost of the special gelatine tissue or films for the positive; second, the difficulty of accurately gauging the exposure; third, of afterward developing them—not being guided in the two latter operations by a visible image.

I have been experimenting with ordinary gelatine films of the celluloid description, of

which there are so many brands upon the market, and have devised the following method by which success is easily obtainable, and one which leaves nothing to be desired for softness and delicacy of result.

I use the old film, whose serviceableness for ordinary photographic purposes is doubtful, either in consequence of age or suspected fog, the latter being no detriment to the process. Of course, fresh films can be used if desired. I first cut up the films into convenient sizes, then sensitize by immersion for three minutes in the following bath:

Potassium bichromate	1 part
Water	20 parts

to which has been added liq. ammonia fort. .880, at the rate of one drop to each ounce of solution.

When the sensitizing is complete, I blot off the surplus moisture with blotting paper, so as to avoid crystallization of solutions on the surface, and then hang up to dry in a warm and darkened room; this should take three or four hours. Printing may be done by daylight, by incandescent gas or by magnesium. Using with the last a negative of ordinary density, twelve inches of magnesium wire at one foot will suffice, but one must be guided by the visible image. When the darkest part of the negative intended to be shown in the lantern slide appears, just the result one would desire in an undeveloped platinum print, printing is complete. Care should be taken when placing the film in the printing frame to see that the gelatine side is away from the negative, and not in contact with it; in other words the printing must be done on the wrong side. Each negative must be protected by a safe edge, as in the carbon process, and each film marked according to negatives used in order to avoid confusion in the subsequent processes. I cut off one corner for the A (blue), two for the B (green), and three for the C (orange) screens.

Development is carried out by hot water, to which has been added one ounce of common washing soda to each pint of solution. A few minutes in this hot bath will cause the soluble gelatine to wash away, leaving a visible image of insoluble gelatine and silver chloride. Development must be continued as long as any milky looking fluid drips away. This may be tested by holding the film out of the bath. When complete, it is given a good rinse in cold water and transferred to a hypo bath in order to fix out the visible

silver image, thus leaving a positive formed of varying thicknesses of pure and insoluble gelatine. A good wash in running water completes this stage of the process.

It is hung up to dry in a room free from dust. After the film positives from each of the three negatives have been thus far finished, when dry, they are ready for the dye baths.

In using these, special care must be taken to put each film into its proper color, the marks on each being, of course, the guide. And as the staining is the same in this process as in all present ones, I must conclude by warning my readers against over-dyeing, which is apt to produce exaggerated and harsh effects. Remember that in most parts of the finished slide the light has to pass through three dyed gelatine films.

One should aim at softness and delicacy of gradation of tint rather than strong contrasty colors.

Kalatype, Printing Without Light

This is what we are promised by Professors Oswald and Gross in an address recently delivered in the Physiological Institute in Berlin. The matter of the address is reported in much detail by Herr Goedicke in the *Photographisches Wochenblatt* on January 20th, and also by the *Photographische Rundschau*. From these sources I am enabled to supply the following details. The printing brought about by the method to be described is dependent on the chemical phenomenon known as catalysis—that is, the power possessed by certain bodies to determine change in other bodies without being themselves changed. We have a well-known example of this mode of action in the ordinary process for the manufacture of oxygen gas. This is usually made by heating a mixture of potassium chlorate and manganese dioxide, under which circumstance the potassium chlorate loses oxygen, but the manganese dioxide undergoes no change. The chlorate can yield oxygen without the manganese, but only at a very much higher temperature. Observations would seem to show that all catalytic action is in the nature of an acceleration. It so happens that metallic platinum and silver have marked catalytic power. Thus they both have the property (in a powdered state) of causing the decomposition of hydrogen peroxide into water and free oxygen. It is this fact that Professors Oswald and Gross have utilized in Photography. If an ethereal solu-

tion of peroxide (which can be made by shaking together commercial peroxide of hydrogen and ether, and then decanting off the latter) be poured on to a platinum print or a silver negative, a thin film of the peroxide will be deposited, and will undergo decomposition where it is in contact with the metal and proportionately to the amount of the latter. If now such print or negative be pressed into contact with a sheet of gelatinized paper, such as carbon transfer paper, the latter will absorb the undecomposed peroxide and form an invisible counterpart of the negative or print thereon. This invisible image can be developed in various ways. Thus ammonio-nitrate of silver will give a black image. Subacetate of lead will yield a brown picture. Ferrous sulphate gives a pale yellow image which becomes black on the addition of gallic acid. Furthermore, as peroxide of hydrogen is capable of destroying the latent image, a positive may be obtained from a positive in the following manner: A dry plate is exposed to the light and then brought into contact with a silver print that has been treated with the ethereal peroxide. The undecomposed peroxide inhibits or destroys the action of the light on the plate, so that when it is developed it reproduces the image with which it was brought into contact—that is a positive. If the plate be not exposed to light, but brought into contact with the peroxidized print in the dark it will on development yield a negative. All this is interesting, but it does not apparently offer any direct advancement of technical photography; but it is far otherwise when applied to the pigment processes. Carbon, ozotype, gum-bichromate and the various photo-mechanical operations dependent on bichromated gelatine. Take, for example, the carbon process. If a negative be flowed with the ethereal solution of hydrogen peroxide and then placed in the printing frame for half a minute with a sheet of unsensitized carbon tissue, the latter absorbs the unchanged peroxide and if now placed in a solution of saturated ferrous sulphate, diluted with double its volume of water, the gelatine will be insolubilized by the invisible peroxide image just as if affected by the light, such insolubility being due to the formation of a ferric salt at the point of contact. The tissue needs but to be squeezed to its support and developed in the usual way to yield a print as by sun printing. But note the difference. The flowing of the negative with the ethereal peroxide, the evaporation of the ether and the subsequent contact in

the printing frame can all be completed in a couple of minutes. The operation is quite independent of King Sol, and almost equally of the density of the negative, so that two of the most troublesome factors of carbon printing are eliminated, and the printing is both rapid and simple. I would here note that while Gaedicke says ferrous sulphite for the bath, the *Photographische Rundschau* gives sulphate of iron and ammonia, presumably ammonia iron alum; doubtless either will do.

Such is the gist of a lecture that is causing quite a little excitement in German photographic circles. We seem to be on the threshold of an important departure in photographic technique, whose ultimate results it would be quite unsafe to prognosticate. Let us get to work and experiment on our own account, for there is plenty to do.

The Development of Warm Tones on Velox Paper

That warm tones can be produced by long exposure and restrained development with papers of the Velox class is well known, but not much practiced. This is chiefly because workers are unacquainted with the inter-relation of these factors. The *Deutsche Photographische Kalender* gives a table that will simplify the matter:

Tone Required	Number of times the nominal exposure to be given	Number of times Developer is to be diluted with equal bulk of water
Green-black .	1	5
Olive-green . .	2	5
Sepia	3	10
Brown	4	10
Red-brown . .	6	20
Yellow-brown	8	20
Red	5	30
Yellow	20	40

The developer used is composed of
Hydroquinone 60 grains
Potassium bromide 40 grains
Sodium sulphite 1 ounce
Sodium carbonate 2 ounces
Water 8 ounces

Lux

We are glad to acknowledge the receipt of some copies of the above journal, published in Amsterdam. Although our knowledge of the Dutch language is limited we are able to assert that the text worthily supports the very excellent illustrations of our contemporary.

The Amateur and His Troubles

By FAYETTE J. CLUTE

Blue Print Cloth

A Massachusetts correspondent asks for directions as to the making of blue-print cloth; what formula is used and what kind of cloth is best suited. Any good formula suited to paper is used. *Photo-Miniature* No. 10 gives several that can be tried. Blue print formulas are like those for developers; one will suit one person and another, another. The cloth most generally used is sold in the East under the name of "Near-silk." It is a cotton cloth with a smooth finish similar to that used for the better and heavier grades of red bandana handkerchiefs. A good formula is as follows:

NO. 1

Citrate iron and ammonia.....50 grains
Water 4 drams

NO. 2

Red prussiate potash.....32 grains
Water 4 drams

This would no doubt be more suitable for cloth if less of the amount of iron and ammonia be used, say 32 grains instead of the 50. Again, it might be advisable to keep the sensitizing solution more on the surface by dissolving the iron and ammonia in gelatine water (sheet gelatine 10 grains, hot water one-half ounce) instead of water, as mentioned. The addition of 10 drops of a 10 per cent solution of bromide of potassium to each ounce of the mixed solution will cause the cloth to print slower but greatly improve its keeping qualities. The best chemicals obtainable should be used and the iron and ammonia salt kept well protected from the air.

Using a Mirror in Focusing

An amateur in Illinois writes to ask if he cannot rig up a couple of struts, one on each side of his camera back, to hold a piece of mirror in position at an angle of 45 degrees so that he may see the image focused upon in its proper upright position. He can easily do this. It is often recommended by writers on the subject and looks quite tempting to the beginner whose entire lack of practice makes the inverted image a source of annoyance. A more advisable plan is to overcome the difficulty by a little patience and

perseverance. With practice one will soon learn to view the inverted image without noticing that it is not in its proper position. Not only this, but in judging the value of lines or masses in a composition, the inverted image is better than would be one correctly placed. I have even known good artists to turn a picture upside down in order to determine more readily just what was lacking in the composition. You may be sure that a composition that seems out of balance when inverted will be equally faulty when viewed rightly placed. The use of a mirror as suggested will only delay a lesson that you will some day have to learn. In work such as the Reflex camera is intended for, the aims are different and, of course, the same argument does not hold so strongly. Here one is generally attempting to secure some rapidly moving object in the most telling position, regardless in a measure of the demands of good composition.

Those Negative Envelopes

You can buy negative preservers at the stock houses, but you can also make a pretty good article yourself if you will but use a little time and trouble. I caught a friend of mine making some the other evening and he certainly knew how to go about the work. Rather, he knew how to get the juvenile part of the family interested in doing it right. This amateur friend is above any suspicion of being penurious and for that reason I had no hesitation in asking all about it. I learned that the purchased article was of just generous enough proportions to preclude any possibility of the negatives enclosed in them ever being placed back in the plate boxes. I knew this from sad experience myself. I like to use plate boxes to store my supply and yet I wish each negative in its own envelope. With the home-made article, this can be done. They do not have to be such a tight fit either. This friend of mine gets sheets of good glazed manila wrapping paper in several colors. The paper dealer cuts them roughly to size as determined by a pattern made from one of the regular articles. With a sharp knife the irregular outline, due to the flap that is folded over to form the bottom, is cut out of several

sheets at a time. These are placed one at a time on a board "mould" and creased. This mould is simply a piece of board with a strip at one end to serve as a guide against which one edge of the sheet is placed and held with the left hand. With the other hand creases are made in the paper by drawing a bit of thin wood with a smooth edge, like the blade of a paper cutter only thicker, across the paper at the proper places to form the folds at the sides and bottom of the envelope. This is easily done, as the mould is grooved with shallow trough-shaped cuts in the right positions. The smooth edge of the stick follows the grooves beneath the paper. A bunch of the cut and creased sheets are "run" to one side so that but a small margin of each shows just past the sheet above it much as the leaves of a large book appear when opened. This allows of a number being pasted at once, each sheet only receiving a narrow strip of paste on the exposed portion. They are then rapidly folded on that side and the operation repeated for the bottom flap. The youngsters in this particular family soon became quite proficient. They found no end of enjoyment in the work, habits of neatness and exactness were cultivated and pater families was supplied with a most satisfactory article. He uses a different color for each class of negatives and it matters little how much his supply of negatives become deranged, he can always pick out his marines, portraits or whatever is desired from the unassorted ones with very little trouble. Best of all, the enclosed negatives will drop easily into the plate boxes from which they originally came; perhaps the best place devised for storing negatives safely and securely.

In Making Portrait Negatives

Years ago an old professional gave me a lesson in portraiture. From samples sent me recently I feel that I can repeat a part of his instructions with every assurance that such will be of benefit to some of my readers. The great mistake nearly all amateurs make in this class of work is in over developing. My old professional friend laid down the golden rule of portrait work when he said: "Time for the shadows, but develop for the high lights." I knew all about developing in those days. More than I do now. Just the same, I had to try several times before I developed one that suited my instructor. Even then I had to exercise some little self-denial to keep from the common tendency of letting

it go just a little further to make sure. My instructor explained it in this wise: "Your lighting and timing must be right. You cannot get in developing something you did not see in the making of the exposure. Development only brings out what you saw, it does not add to it. If you timed rightly you will have at least three degrees of high lights. If you stop development when the highest of high lights are through the emulsion you will secure gradation. If you continue to develop you simply force the second degree of high lights through to the glass without in the least adding to the intensity of the first or highest lights which were already through to the glass. Continuing development, the third set of high lights are pushed through, making all three degrees of equal printing opacity and all gradation is lost. Do not humbug yourself that you are increasing the detail in the shadows. The place to do that is before the camera. If you have failed to secure it there, do not attempt to secure it at such high cost as the loss of all gradation in the lights. You will pay too high a price." These may not be the exact words, but it is near enough to suit the purpose. It is good advice, I might say the best of advice, no matter just how it is worded. It is the difference between the cast-iron negatives of the novice and the well-modulated ones of the better worker. Take the reproductions of good portrait work shown in the magazines as prize winners at the conventions and see if they do not seem to conform to this rule.

Using a Spectacle Lens

I suppose there are any number of my readers that are bemoaning the fact that they do not possess a large camera. They find them listed at from \$25 to \$50. A lens such as they imagine they must have will take the rest of the hundred if not more. Placeholder, trays and the like to use the larger sizes will be quite an item. They also recognize the fact that such of their friends as possess both the modest 4 x 5 or smaller and a larger size, rarely use the larger box. In spite of this knowledge, they feel that they would occasionally like to use something larger. It can be done for a few dollars if one is not too exacting. You will find the second-hand dealer in photographic supplies, brokerage he sometimes calls it, will offer you a list of dozens of good cameras that are a few years old in pattern that can be secured for a few dollars. Buy one of them. Measure the

amount of extension the bellows permits and then obtain of your optician a spectacle lens of a little shorter focal length. If you do not wish to go to the expense of having it mounted in brass you can, with a little ingenuity, some glue and strips of heavy paper, make your own mount. The tube can be easily made by winding the glued strips of paper around some round object of the desired size. to the good, generous focal length of the lens, as with the familiar "Waterbury" that was so common a few years ago. You must get what is called a periscopic lens. It will cost about 50 cents. The chemical focus will fall in a slightly different plane from the visual one. The exact amount of difference can be determined by experiment. Roughly speaking, it is about one-thirtieth nearer the lens. Quite often the simple expedient of turning the ground glass rough side out will make about the right correction. You will have plenty of time this winter to get such an outfit in shape. It will not do for quick shutter work, but for the making of a few large, well-studied out landscapes the outfit will surpass the one you figured up to cost in the neighborhood of a hundred dollars. Owing to the good generous focal length of the lens, as well as to its few reflecting surfaces, you will be surprised at the superiority of the results. Many of the leading amateurs across the pond use just such lenses for this class of work in preference to the best samples of the lens maker's art. Not only the saving in cost, but the satisfaction of having worked it out yourself, will be gratifying.

A Rest That Would be Appreciated

I do not intend to suggest a rest from the pursuit of Photography, but would it not be a good idea if we could only induce the makers of new papers, introducers of new developers, inventors of new processes, designers of new cameras, lenses and the like, to suspend their activities for a certain length of time, say six months, at the least? We would then perhaps find time to become acquainted with the ones we now have without our attention being detracted by the latest addition to the list, warranted to eclipse all predecessors. I am quite sure we would be great gainers by such an agreement on their part. Some of the best printing processes on the market today have failed to receive their merited popularity simply because something new and well advertised happened to enter the field at an inopportune time. The merits

of a certain developing agent that I could name have never been more than partially appreciated merely from the fact that it entered the field about the same time as did several others with more distinctive though less meritorious claims. And so the story goes. If I was to be responsible for the photographic education of a certain individual, I would go about the work in this way: I would allow him to use but one developer, one printing process and a simple stand camera until such time as he had them perfectly under control. A desire to secure certain results would then be the only reason for changing to another article. With a good grounding of this kind experimenting would be of some value. If a person can take a medium plate with which he is familiar and expose it in a camera of the stand type, develop it with pyro and print it on platinum, for instance, he is in a position to try other things and judge intelligently as to the comparative value of the results. The individual who has not used any one plate, paper or process long enough to master the details of its manipulations, is wasting time experimenting with others about ninety-nine times out of a hundred.

Bartolozzi Reds on Bromide Prints

When the print is finished, well fixed, and thoroughly washed, place it in a 15 per cent solution of copper bichloride. The image will completely disappear, because the reduced silver is transient chloride. Well wash to eliminate every trace of the copper bichloride, and then immerse the print for a few minutes in a solution of potassium ferrocyanide (yellow prussiate); wash well in clear water, and again immerse in a 2 per cent solution of copper bichloride. The image will immediately reappear in a beautiful shade of red. If the whites are not clear, it is because the washing has not been carefully done.—*The Photographic News*.

"Photo-Lighting," by Felix Raymer (H. A. Hyatt, St. Louis). This is a practical book by a practical man. It is an explicit setting forth of the conditions required to produce the various styles of lighting with a thorough discussion of all the minutiae that make for failure or success. We do not remember having read any book on the subject in which this is better, or perhaps so well done.

Notes and Comment

Change of Location

Messrs. Folmer & Schwing, manufacturers of the famous Graphic cameras, have removed from their old location on Broadway, New York, to 407 Broome street, same city, with greatly increased facilities and an extensive plant for the production of the finest line of cameras on the market. We congratulate the firm upon their success.

Congress of Applied Chemistry

The Fifth International Congress of Applied Chemistry will begin its session in Berlin on May 31, 1903. This meeting will be the most important function of the kind ever held, and includes all departments of applied chemistry.

Special committees and subcommittees have been arranged for all countries. The general chairman of the American committee is Dr. H. W. Wiley, chief of the Bureau of Chemistry of the United States Government.

Photochemistry is represented by Section IX, and it is hoped that all Americans interested in photochemistry will become members of this Fifth Congress. The fee for membership for Americans is \$4. Members will receive the full printed reports of the proceedings and all the papers read during the session. This publication in itself will be a very important one.

All American photochemists are requested to present papers on photochemical subjects. If they cannot go to Berlin themselves, these papers will be read by Dr. Leo Backeland, who is the chairman of the section of photochemistry.

All correspondence on this subject or applications for membership can be addressed to Dr. Leo Backeland, "Snug Rock," Yonkers, N. Y.

Reorganized Prosch Company

The Prosch Manufacturing Company of 389 Broome street, New York, well known to photographers and the photographic trade during the past sixteen years as manufacturers of photographic shutters, flash lamps and stereopticons, was reorganized on January 1st with the addition of new capital and new energy. The business has been owned during the past several years by Maximilian Klaiber, who was the inventor of all of the

Prosch shutters and flash lamps, and who has been the superintendent of the factory for the past fourteen years. The new directors of the company, besides Mr. Klaiber, are Frederick E. Smith, Jr., of Swampscott, Mass., and Irving G. McColl, formerly publisher of *Advertising Experience*, Chicago. The company has several new patents in shutters and flash lamps which will be announced from time to time in these pages. The newest model of Prosch shutter recently placed on the market is the Athlete-Triplex model, which is suitable for hand cameras and which has a latitude of speed from 1-10th to 1-600th of a second, with time and bulb exposures. All of the Prosch shutters will now be fitted with iris diaphragms.

Wynne Meter and Pinhole Pictures

The following letter recently received by the Infallible Exposure Meter Company will be of interest to all readers of the series of articles by Dr. H. Power on "Pinhole Photography":

"GENTLEMEN—Will you kindly send me, for enclosed fifteen cents, a packet of the new paper, and may I say that, thanks to the articles of Dr. D'Arcy Power in *CAMERA CRAFT* I have solved the problem of how to use the Wynne Exposure Meter in making pinhole photographs. Simply multiply the number of inches of bellows length by 2 if a No. 8 needle hole is used, by 3 if No. 10 and by 4 if No. 12, and so on. The result is the F value.

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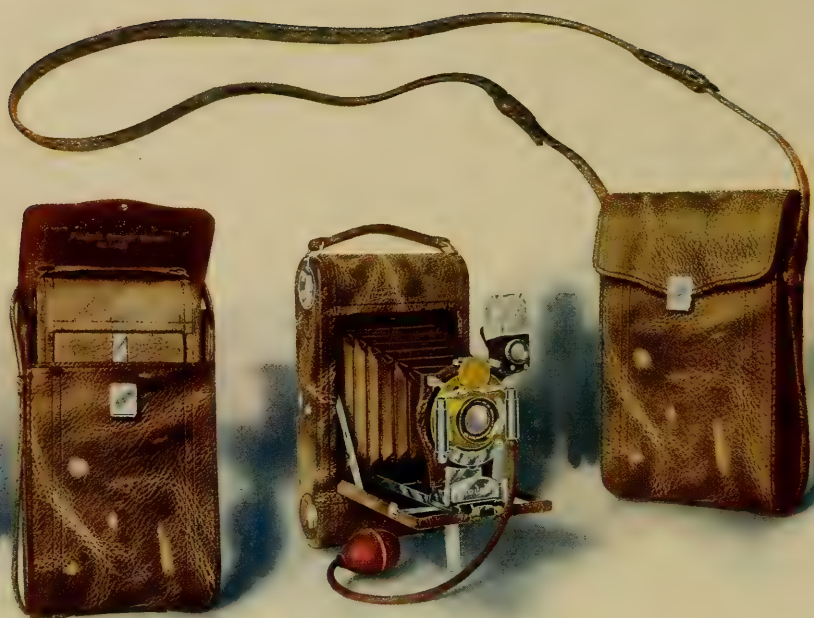
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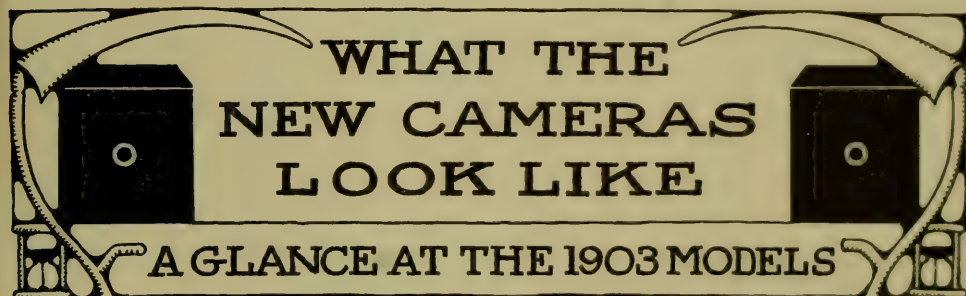
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VOL. VI

SAN FRANCISCO, CALIFORNIA, APRIL, 1903

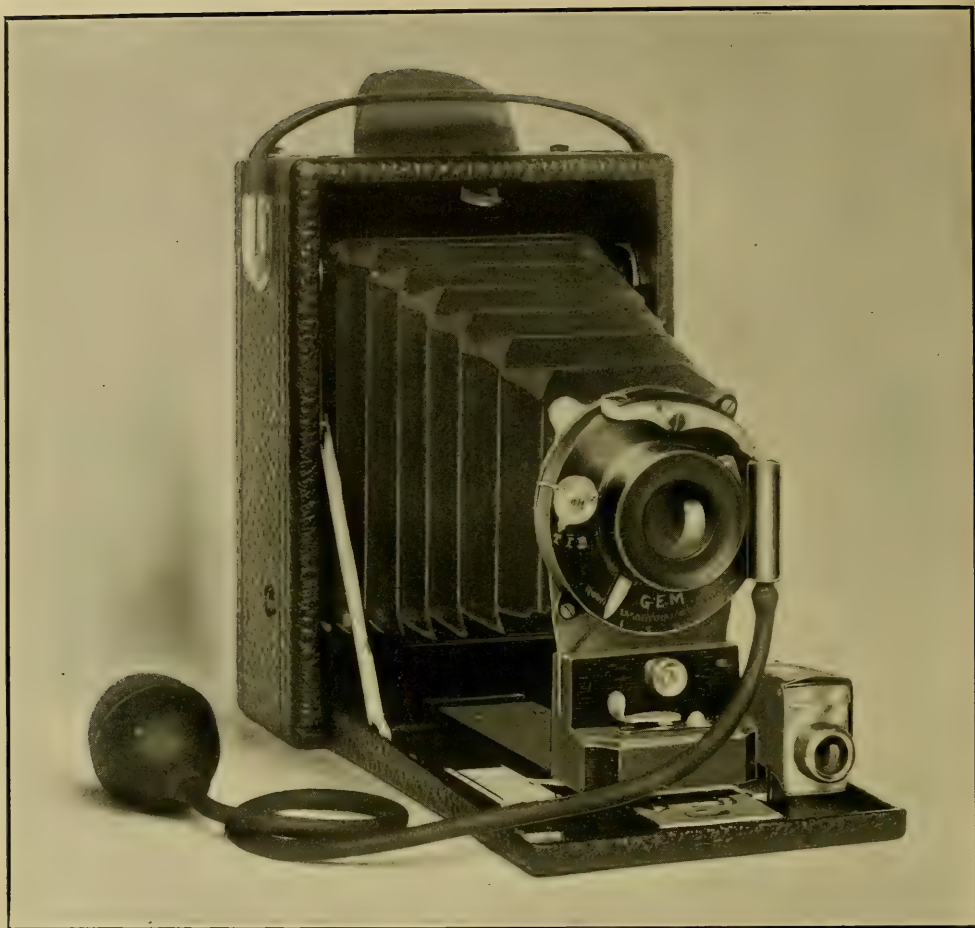
No. 6



The year 1902 meant a great deal to the photographic industry. During the preceding year the business as a whole assumed a more definite shape than ever before. The laws of supply and demand created for the first time a state of equilibrium and although the resulting conditions brought forth depression in some quarters, as a whole the trade conditions have improved and the coming year will bring about the final transformation. Photography as viewed from the industrial side is now on the substantial basis where no combination of circumstances or of trade conditions can effect the steady growth of the demands made upon it by the consumers.

Each successive year has brought forth a renewed interest in Photography and as an evidence of the spirit actuating the manufacturers we have only to review the catalogs of a few years back to convince us that the men who make the cameras have been just as progressive. To establish some record of the present year's productions and as a compliment to the manufacturers, CAMERA CRAFT has given space in this number to a brief resumé of the new and wonderful instruments about to be placed on the market for the season of 1903. While it is impossible to present full descriptions of all of the new cameras, we have endeavored to draw the attention of our readers to the principal features of each line so that it will be easy for any one wishing further information to ask for it with some idea in mind as to the particular instrument desired. All of the manufacturers of cameras in the United States have long been advertisers in our pages and upon referring to the advertising pages, addresses and further particulars can readily be found. All of the manufacturers have issued handsome catalogs this year and the prospective purchaser will do well to send for such as he wishes before determining upon the instrument desired.

"Premos Produce Perfect Pictures" is a catch phrase that has been familiar to amateur photographers for twenty-five years and there are living today many successful photographers who remember the first Premo produced said to produce perfect pictures. The improvements on the Premo cameras have been gradual instead



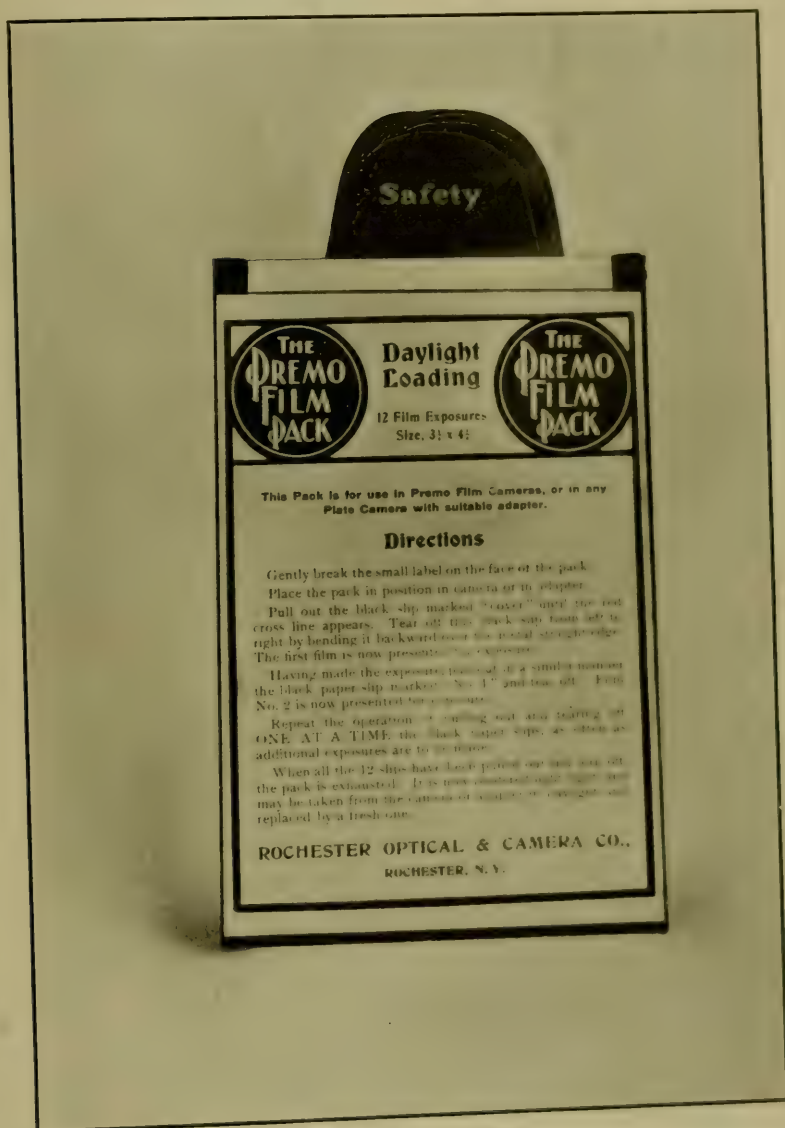
THE PREMIO FOLDING FILM CAMERA, SHOWING FILM PACK IN POSITION

of revolutionary until this year when through the introduction of the Premo Film Pack an immense step forward has been taken. This film is a light-proof package shaped very much like a plate holder and contains twelve films which are successively presented for exposure by simple means. This film pack is for use in Premo Film Cameras which are new this year and can also be used in all of the regular cameras made by the Rochester Optical and Camera Company. In converting a plate camera into a daylight film camera, an adjuster in the shape of a modified plate holder is called into play.

The Premo folding film camera portrayed on this page is quite a pretentious instrument and designed for a wide range of photographic effort. At the back of the camera is a metal door held in place by spring catches which may be opened by pressure. The film pack is simply placed in the camera and the metal door closed; the instrument is then ready for picture taking. The film exposures are made by drawing out and tearing off one by one the black paper tabs which project from the film pack. The last tab drawn out shields the pack with black paper and it can then be removed from the camera in daylight.

In addition to many improvements in both the Premo and Poco lines the Roch-

ester Optical and Camera Company has secured the agency in the United States for the celebrated Ross lenses, and these lenses will be listed with both Premo and Poco cameras. This lens is favorably known all over the world, and although it has never been advertised extensively in the United States many of the leading photographers



THE NEW FILM PACK

are familiar with this high-grade instrument. A new lens has just been put forth by this company which is described by the makers as follows:

Since the discovery of the new Jena glass enabled the optician to produce lenses where an astigmatism was corrected to a remarkable degree, every energy of the lens-maker has been directed toward producing not only the most perfect results, but also toward reducing the cost of production, always very high in anastigmatic lenses.

A great advance in that direction was realized when it became possible to suppress some of the segments which have been thought necessary to the anastigmatic system. If we reflect but a moment that leading anastigmats have been usually formed of two lenses, each composed again of four thin lenses cemented together, it will be seen that a great economy of expensive material and workmanship would be realized could one but reduce the number of component parts of each lens. Although this was tried, the results were not altogether satisfactory and would hardly compare with those obtained by the best cemented lenses of the older type.

It has been the privilege of Ross, Limited (London), to produce a lens simpler in its component parts than any other first-class anastigmat heretofore on the market, and yet possessing not only the beautiful qualities which distinguish the latter, but having still, new features and qualities of its own. The Homocentric lenses, just announced, are composed of four single segments, forming two lenses in all, against the six or eight segments that usually go to form the two lenses of the regular anastigmat. Yet the definition is just as exquisite, as perfect; the crispness rather superior. The corrections for an astigmatism are equal to any and the secondary aberrations, called "spherical zones," which must not be taken for an astigmatism and which are present in nearly all modern anastigmats, are here avoided altogether and so perfectly corrected that the resulting image shows a brilliancy and purity rarely met, if at all, in other lenses. It should be added also that the luminosity of these lenses is somewhat brighter than usual, as there are less reflecting surfaces and layers of glass than in the other cemented lenses.

Another and very important advantage of the Homocentric lies in the low price. Compared with a lens of similar quality and speed of the cemented type, the difference is often striking. This difference in price is not only accountable to the lesser quantity of costly material and incidentally decreased cost of labor (four segments instead of eight) that enters into its construction, but also to the fact that it is possible to obtain with uncemented lenses a greater circle of even illumination and definition, consequently sustaining a wider angle and greater covering power, which allows us to use a lens of shorter focus to cover the same size plate.

The depth of focus in the Homocentric is absolutely remarkable, and thanks to its admirable correction from every defect known in lenses, which it would take too long to mention here, one is able to focus at full aperture on the object and set afterward, confidently, the diaphragm to the stop with which he desires to take the picture, without refocusing. In most modern anastigmats this is impossible. If it is remembered that in many a dark place like interiors, churches, small alleys and confined situations, the light is so weak that it is almost impossible to focus with a small aperture, it will be readily seen what a boon the Homocentric lens will be in these cases, when it is necessary for the operator to focus comfortably with the largest circle obtainable with uncemented lenses a greater circle of even illumination and definition will be obtained.

Early last fall the Century Camera Company introduced the Petite Century, and it is doubtful if a camera ever met with a more cordial reception. Thousands of the dainty little instruments were sold throughout the country and so successful was its introduction that the Century Company has seen fit to place it in the front of their new catalog where it justly belongs. This catalog is a model in its way and the amateur dealer and even the non-photographic reader will be convinced of the



CENTURY GRAND SR. SPECIAL, FITTED WITH FOCAL PLANE AND VOLUTE SHUTTERS AND ANASTIGMAT LENS

beauty of Century cameras even before it becomes his privilege to see the models for 1903. The 1903 instruments differ in many respects from last year's cameras—one change that is unique being the substitution of black shutters with ivory trimmings for the customary brass lacquered shutter. This decidedly changes the appearance of the Century line, and as these cameras have always borne off the palm for exquisite finish it will be necessary to see the instruments before appreciating them.

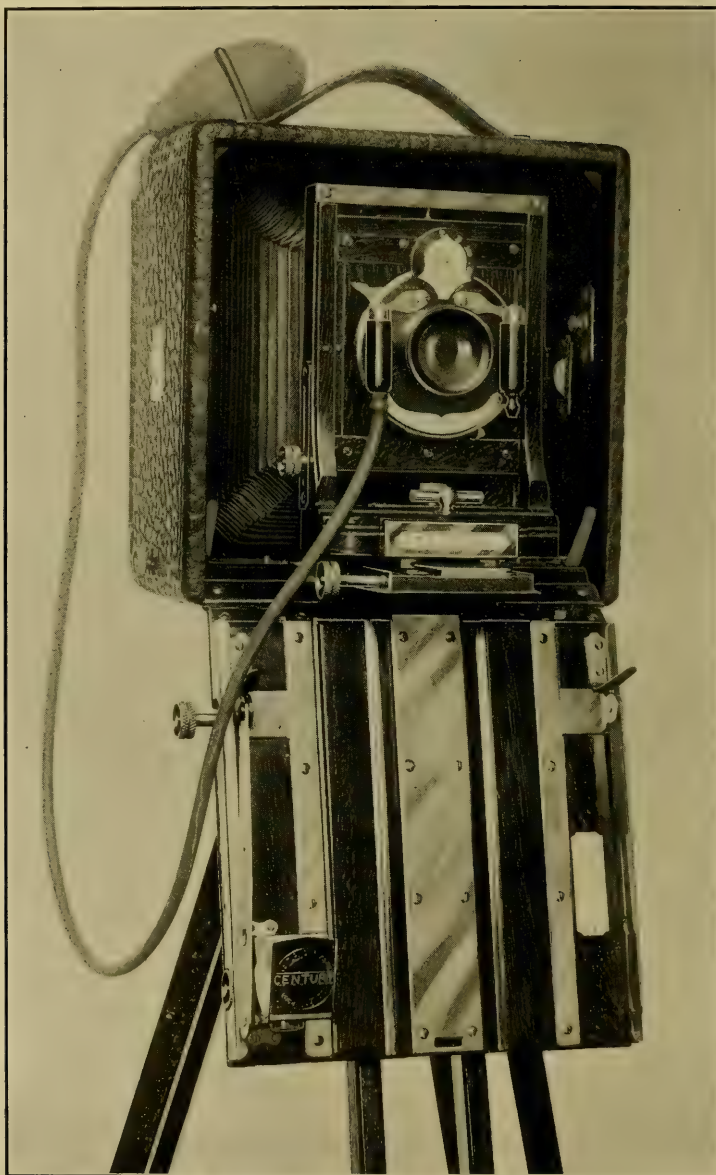
The latest addition to the family is the Grand Sr., an offspring of the Century Grand, one of the most popular cameras of recent years. This camera, in addition to the many features of the regular Grand, has detachable sidearms for dropping the bed, a supplementary bed with rack and pinion movement for extreme wide-angle lenses, vertical central swing back and a horizontal side swing. These two latter features in connection with the Century swing bed give the greatest range and adjustment ever attained in a hand camera. As will be seen from the accompanying illustration all of these swings can be operated while the photographer watches the image on the ground glass.

The addition of a side swing to the Cycle form of cameras is an innovation, and by its introduction the one movement distinguishing the long focus box instruments from the Cycle type is removed. This swing operating as it does, at the rear of the camera, can still be used when the bed is dropped and the supplementary wide-angle bed is in use, thus giving both a vertical and horizontal swing.

The cases accompanying Century cameras have always been of the very best class, but this year's productions eclipse by far the best efforts of 1902. The case accompanying the Grand Sr. is lined throughout in a handsome shade of plush and is provided with a lock and two clamps.

A stereoscopic camera, with an automatic roller division and many of the features of the best Century cameras, is also a new model which should meet a ready sale.

The recent consolidation of the Gundlach Optical Company and the Manhattan



CENTURY GRAND SR., WITH BED DROPPED AND WIDE-ANGLE BED IN POSITION

Optical Company prepared the photographic trade for something surprising in the way of improvements on the old standard lines of both of these well-known manufacturers. They will not be disappointed, for throughout all of the Korona line there is a daintiness of finish and clearness of design that will go far toward making these cameras more famous than ever. The Korona Petit is one of the new instru-



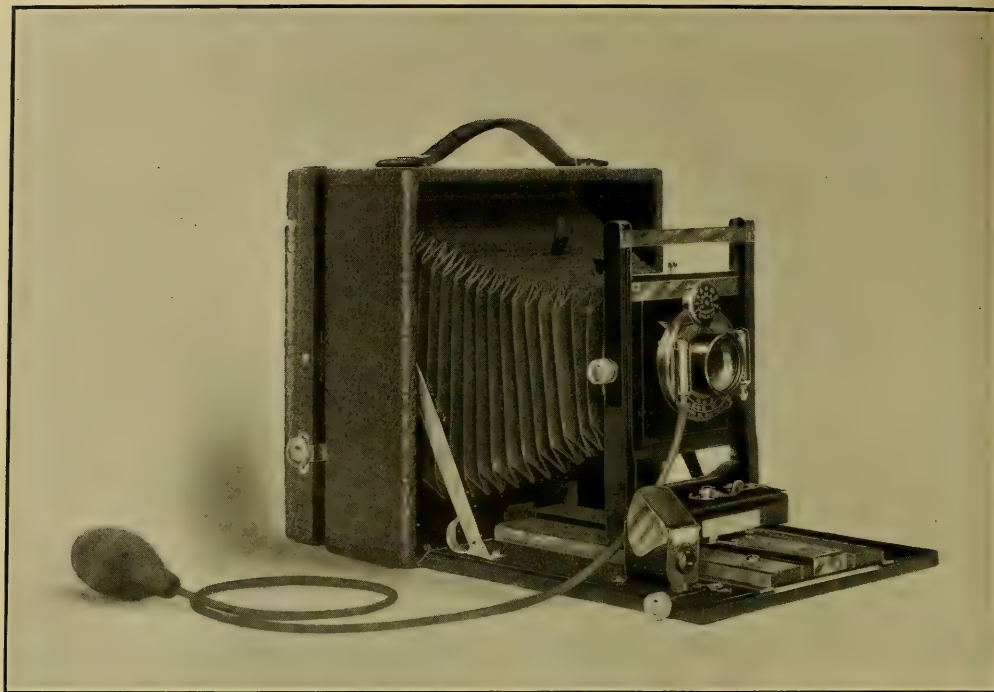
THE INGENIOUS SELF-LOCKING SIDE ARM AND FOCUSING WIDE-ANGLE BED ON THE NEW KORONAS

ments and is as its name indicates, a small pocket camera, ingenious in design and an exquisite little instrument. Numbers of improvements have been made in the regular line of cameras, amongst them being an auxiliary bed with rack and pinion for wide-angle lenses and an ingenious bed arm which is a vast improvement over the other instruments now in use.

The new line is fitted throughout with the famous Wolensak shutters, a most valuable addition to the general utility of the instruments. Much has been done toward improving the construction of the beds and frames, and the best features of both the old Korona and the Wizard lines have been united and added to until the finished result is well calculated to increase the popularity of Koronas beyond measure.

"It is all in the lens" has long been heralded by the Gundlach Company in its advertising matter, and we are pleased to note that this statement is still being kept up. Gundlach lenses have been favorably known by photographers on the Pacific Coast for many years and they have had a wide sale throughout the whole country. With these lenses is now joined the verastigmat, a lens of high quality, made by the Manhattan Optical Company and liberally advertised by them in years gone by.

The new view camera made by these manufacturers is the most substantial we have yet seen and is destined to have a great sale. It is solid in construction and has several new and distinct devices that add much to its value. More view cameras are sold on the Pacific Coast in proportion to the number of photographers than in any other portion of the country, and this instrument is destined to be the most popular production of the year, in its class.



KORONA V—A HIGH TYPE OF THE CYCLE CAMERA

The Seneca Camera Company announces this year that a complete change has been made in the office and factory management, and that an entirely new line of cameras have been designed. These statements are borne out in the catalog for 1903, which has just been issued, for not only is the catalog of goodly proportions and well printed, but the engravings of the cameras indicate that much has been done for the betterment of the instruments. An automatic clamp with press button pull has been fitted to the entire line, and the reversible back device is actuated by a single release, a decided improvement over other methods. A lens board that is removable is another novel feature. It consists of a brass cup formed to fit inside of the opening of the lens board and a wooden ring is screwed inside the cup, the shutter mount being attached to the wooden ring instead of the lens board itself. A patented device in the shape of a pin permits of the removal of the lens in a very short time. In addition to these features the swing back or bed is operated through a thumb screw placed in the top of the box and can easily be adjusted while the focus is being secured. All in all, the Seneca line will compare favorably with others on the market.

Speed today seems the predominant factor in all things; not how slowly but how swiftly we can run, ride, walk, think, eat, drink and photograph. To aid the protographer in his ambition to make pictures swiftly, the intricate mechanism of lens' shutters, and their deficiency in illumination and speed engaged the sympathy and attention of Mr. William F. Folmer of the Folmer & Schwing Manufacturing Company, and finally he determined to solve the problem. That he succeeded admirably and completely, the Graphic Focal-Plane Shutter can best testify. It is the only scientifically correct curtain shutter made; the true or maximum f value of the lens is at all times available; at the same time the sky and foreground receive an exact

or perfectly proportioned exposure. The gradual and automatic diminishing of the aperture of the curtain while travelling across the plate accomplishes this remarkable feat; and this is controlled, as is every adjustment of the shutter, from the outside; and always subject to the alteration that the judgment of the operator may dictate. This was the first article to issue from the enlarged factory facilities of the Folmer & Schwing Manufacturing Company in 1902. The second, a beautiful specimen of camera workmanship, is the inimitable Graflex. Years of experience and sleepless nights, days of toil, of success and failure, are all woven into the fabric of this wonderful camera. It is a monumental leap from darkness to light; the system of Photography and the camera building of the past are, with one sweep of the genius of Mr. Folmer, left far behind. The capabilities of this instrument are unmatched, unprecedented in the history of the art; and at the shrine of the Graflex the photographic world is today worshipping. A little book entitled the "Graflex," published by the makers, may be had for the asking, and in the pages of this beautifully illustrated booklet will be found an interesting and valuable treatise on the principles of the Graphic Focal-Plane Shutter and the Graflex.

The making of natural size photographs is a problem that has for years baffled the makers of apparatus; the requirements have been exacting, and the average naturalist demanded a camera which is portable, convenient and perfect. The Graphic Natural Size Camera is all of these, and more, too. No focusing is necessary to obtain a perfect natural size reproduction of the object; the operation of this instrument is entirely mechanical; vertical, horizontal, oblique or intermediate angles may be obtained equally well in the field or the studio, and all without disturbing or injuring the natural arrangement of the clusters, flowers or other specimens. Professor Collins of Washington, D. C., collaborated with Mr. Folmer in designing this camera.

This year, for something new, the Graflex has been rolled into a smaller box, the reversible back being eliminated, and the portability of the camera being otherwise increased. The Stereo Graflex is also new. The mechanical peculiarities of this instrument are widely divergent from those previously undertaken in an apparatus of this character. The unique advantages of the Graflex have been modified and the essential requirements molded into the construction of the Stereo Graflex. The image is transposed, though not inverted, and by the insertion of suitable lenses in the eye piece a true stereoscopic reproduction of the subject is produced. This enables the operator to study the composition and accurately focus the point most advantageous to the making of a perfect stereograph.

The Reversible Back Cycle Graphic Special is a later production in this most interesting line and it may be well to describe in detail in this number, the care and aptitude that enters into the making of Graphic cameras. They are all the same in workmanship with only a difference in finish and adjustments. In the Specials ebonized mahogany is almost exclusively adopted, but the other cameras are finished in the natural wood.

The Reversible Back Cycle Graphic Special lacks none of the utility and efficiency that distinguishes the famous Long Focus Reversible Back Special, though much is gained in weight and portability. The rigidity, intricate exactness, complement of adjustments, smoothly working parts, finish and completeness of this Cycle Special probably exceeds that attained by any maker of a similar camera in the world. No nails nor screws are used in constructing the frame of this camera. An

ingenious locking system is used, and when this is once home it cannot become loose; a single block of wood could not be stronger, and the perfect joints which the early Graphic cameras today exhibit makes this assertion positive. The panel in the platform is composed of from three to seven parts, according to size, with the grain running diagonally, transversely and vertically. These parts are ingeniously tongued and fitted into a grooved frame in such a manner that when complete, no joining grains in the entire bed are parallel to each other. The mahogany from which the first and second extension frames are made is carefully selected as to its straight grain. The lower extension bed is made of four pieces, of a width and thickness that would alone guarantee great strength, but to enhance its rigidity a neatly beveled strip is



THE PLANT OF THE BLAIR CAMERA COMPANY—SIXTY THOUSAND SQUARE FEET OF FLOOR SPACE

grooved and fitted to the top, permitting the second sliding frame to run flush with its surface. This method improves the finish and beauty of the whole telescopic bed, and by a plentiful and ingenious distribution of angle brass guides, the two sections, when extended to their limit and locked, are made practically immovable and will support without the slightest quiver or vibration a telephoto apparatus many sizes larger than that for which the camera may be listed. The rack and pinion focusing device connects with both sides of the lower extension frame, perfectly obviating any lateral motion when free or locked.

Another essential distinction in this camera is the adjustment provided for the convenient use of a wide-angle lens. An auxiliary track, which is operated with a rack and pinion, is concealed within the frame of the camera, and this remarkable

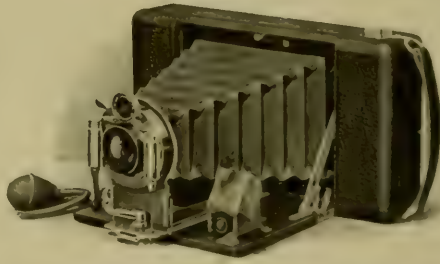
feature greatly enlarges the usefulness of the outfit. The rising front of this "Special" is borrowed from the "Sky Scraper," it is also operative with the pinion principle, and the lens is raised independent of the bellows.

The reversible back is equipped with Mr. Folmer's focusing hood; this little device has had many imitators, but none have been so good or serviceable as those incorporated in the making of the various Graphic cameras.

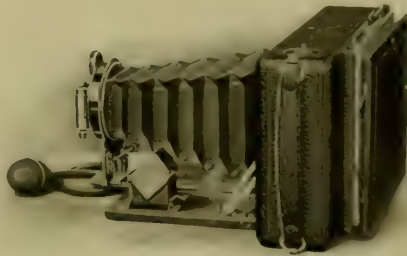
The latitude permissible with this Cycle Graphic Special is indeed almost unlimited. Its rigidity and adjustments commend it to the architect; its portability to the tourist; its compactness to the cyclist or chaffeur; its weight to the fair gender; its bellows' extension to the lovers of telephotography and portraiture, and as an enlarging, reducing, copying and general hand camera, really nothing more could be desired.

Hawk-Eyes

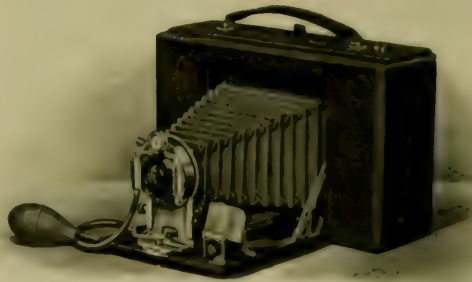
The 1903 catalog of the Blair Camera Company, just issued, is one of the daintiest of the many catalogs issued by camera manufacturers. The cover is a particularly striking one in five colors and portrays a young couple criticizing with smiling countenances what is undoubtedly a film made with a Hawk-Eye camera. The catalog describes the famous Hawk-Eye



1—FOLDING WENO HAWK-EYE, WITH RISING AND FALLING FRONT AND LONG FOCUS LENS



2—THE SAME CAMERA, SHOWING EXTENSION BED AND PLATE ATTACHMENT



3—NO. 4 FOCUSING WENO HAWK EYE



4—SAME CAMERA, SHOWING CAMERA READY FOR FOCUSING

line extensively and especial attention is paid to the focusing Weno Hawk-Eye, the only camera in existence whereby the image can be focused upon a ground glass when using film. The construction is somewhat different from the ordinary folding film camera and consists of an inside section embodying the film chambers which telescopes and, when drawn upward, a spring actuating ground glass adjusts itself automatically in the same focal plane of the film, which allows the photographer to focus and center the object accurately. After focusing, the film section is dropped to its original position and at the same time the ground glass drops backward leaving everything ready for an exposure. With rising, falling and sliding front and rack and pinion movement and many other desirable improvements, a compact camera is produced that cannot help but win the favor of the user.

The Folding Weno Hawk-Eye with a long focus rectilinear lens, extension bed and rising and falling front is another instrument that is destined to be popular this year, it being one of the most compact and thorough instruments on the market. All of the film used in this line of cameras is prepared for development in the Kodak Developing Machine, a most important item to be considered when buying a film camera.

A Plate Developing Box

Closely following the introduction of the Kodak Developing Machine comes a portable daylight developing box for plates. Schoverling, Daly & Gales, who handle the instrument, describe it as follows:

In the interior of box is placed a glass tray for developing solution and one for hypo. A waterproof hood fits snugly in a groove running around the body of the box. The hands are inserted through openings of the hood and the plate is removed from holder and placed in the developer, after which the ruby slide is closed and the hood discarded.

The ruby slide is now placed over the developing tray, under which a light of ruby glass is inserted in an opening in the bottom of the box. By holding the box up to the light, gas or lamp light preferable, the development is plainly seen, the trays being so constructed as to retain the solutions when the box is held in a vertical position. The writer had the privilege of seeing one of these instruments in the East, and while the matter was not fully entered into at that time, is prepared to say that its possibilities are large and that it will undoubtedly attract considerable attention in the next few months.

The Boston Background Painters

Packard Brothers, Roslindale, Boston, Mass.

This firm, established in 1882, is the oldest and one of the best-known concerns in the background business. The sample books they send out to photographers show the fine results secured in the use of their backgrounds by Marceau, Chickering, Rockwood and others eminent in the profession, and are valuable educators to photographers. Mr. Ed. Packard, whose photograph we insert in this issue, is the main-spring of this concern, the dean of the photographic background trade of America, and is well known to the trade as a genuine Yankee hustler. Perseverence, energy and fair dealing have brought his firm to the head and front of the background business.

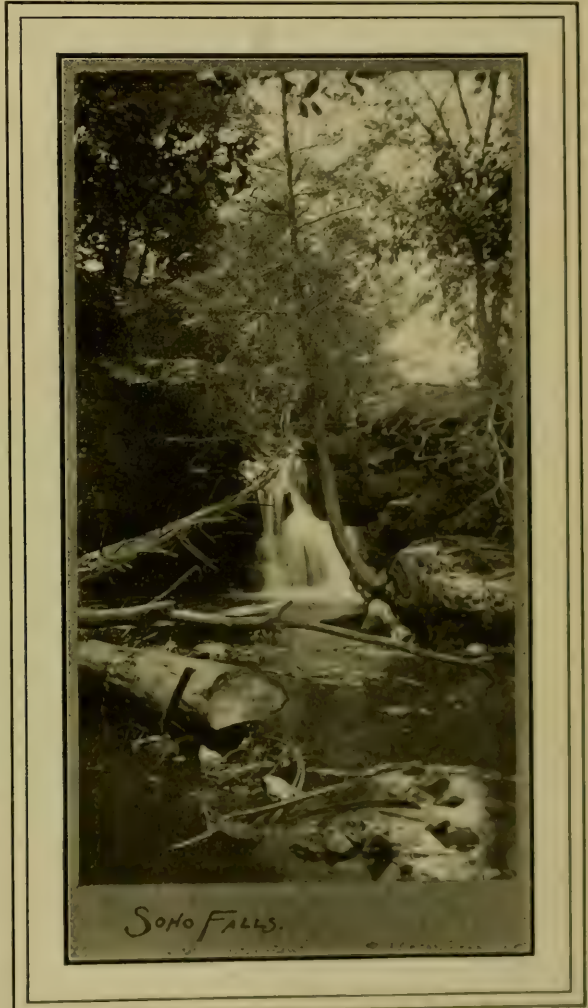
A Modern "Master Craftsman"

By LE ROY HARTLEY

In the comparatively few years of its existence as an art, photo-engraving has advanced with such wonderful rapidity, by such phenomenal leaps and bounds, as to make its consideration in retrospect exceedingly interesting, and as its processes found their first origin in American minds, and in its gigantic forward strides, its advancement has been what we take pride in terming "American," the history of the art is especially interesting to Americans.

But as the American mind looks rather to the concrete than the abstract in things, and to practical results attained rather than the processes that attained it, it is the finished work, the completed and perfected product, that claims the attention of such a mind. But while there may be little enough in the average "half-tone" to bring to the mind of the man who is neither an artist nor an engraver any thought of the careful work on the negatives, the nice task of preparing the metal plates to be engraved, the etching, the bringing of the blocks of wood or slabs of metal to "type high" for mounting purposes, all of which are essential to the work, there are points about the finished product that inevitably suggest the finishing machine work and bring to mind thoughts of the perfect machines that contribute so much to the success and progress of the art.

It is always interesting to read or hear of the discoveries of men, to learn how it came to pass that an invention was achieved, a certain process discovered. With photo-engraving and its story of progress this is especially so, for despite the wonderful advances of the American artisans who have taken up this work, the strides toward perfection of those men who have been called upon to supply the machinery



AN EXAMPLE OF DIFFICULT LINE WORK DONE ON THE
ROYLE Lining REVELER

wants of the craft have been even greater, so much so that the almost incredible spectacle is presented of an art that has no machine wants—that is so well provided for along this line that it has, in fact, hardly yet caught up with its machinery.

That this curious state of affairs is existent is to a very great extent the result of the energetic efforts and brilliant successes of one man, a man who is one of if not the most interesting figure today in the world of photo-engraving. Vernon Royle, for it is to him that reference is made, was born in the first half of the last century, given a public school education and then sent to work as an engraver's apprentice. Actively engaged at this work at the time when Moss, the father of photo-engraving, was making his valuable discoveries, the acquaintance and friend, despite the frequent disparity in ages, of most of the famous engravers of the day, it was but natural that young Royle, knowing the wants of the old art so well as to have met some few of them himself, and blessed with a natural mechanical aptitude and genius, should turn his attention to the machinery wants of the new art.

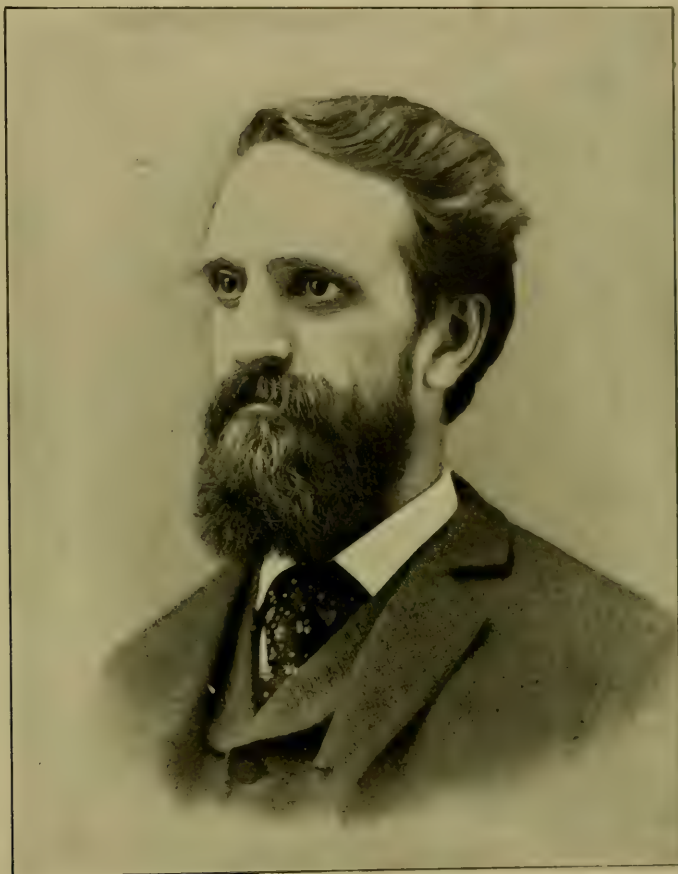
This demand at first, almost in its entirety, was for improved routing machines. The followers of the art wanted machines that would enable them to cut into the smallest and most acute corners, machines that would do fine work when necessary and yet would work with such speed as to make possible great rapidity in the necessary coarse work on the plates. It was to these needs that the young Jerseyman (he was born and lives in Paterson) devoted himself, and the results of his work speedily presented themselves in improvement after improvement on the routing machines then in use, each improvement in itself a long stride toward the perfection that he was later to attain in this machine.

But the router was not the only machine necessary to the art of photo-engraving, and when it had been brought to a high degree of perfection Mr. Royle turned his attention to other machines, some of which were already, in crude forms, in use and others of which had yet to be evolved in his mind. The beveler and its lining attachment, the planer, the saws, the shoot-board, the edgers and trimmers and the facing lathe were all in turn accorded his attention, and to each of these machines he contributed something of improvement. By this time, however, he had arrived at the conclusion that what was most needed by the photo-engraving art was an establishment capable of turning out such machines as were needed by the exponents of the craft, and he promptly created such an establishment by persuading his father and brother, who, together with himself, had been conducting a general machine shop at Paterson, N. J., under the firm name of John Royle & Sons, to devote an entire department of their shop to the exclusive work of building photo-engraving machinery.

Results were almost immediately apparent, for after the shop had been equipped for the work by the bringing together of the most expensive machinery plant in the entire country and the gathering of several score of expert mechanics, Mr. Royle's inventive genius made itself manifest in improvement after improvement, many of them so radical as to be startling. In the archives of the Patent Office at Washington the name of Vernon Royle became a familiar one, and it was not long before his patents passed the score and even the half-hundred mark, now far distanced. The photograph of Soho Falls on a preceding page illustrates what Mr. Royle has achieved in one line, for the perfect border effect that the picture has, an effect that adds greatly to the beauty of the portrayal of the scene, is the result of the work of a Royle lining beveler, a machine that by its wonderful construction is en-

abled to cut either raised or graved lines on a plate, throwing a portion of the metal plate cut above the plate's surface or taking the line out of the plate, thus permitting of the making of either black or white lines in the completed half-tone.

Had Vernon Royle merely worked to meet the machinery demands of photo-engraving, however, the art today would hardly stand where it does. Instead, he conceived what the needs of the art must inevitably become, and long ere other craftsmen felt such needs he had produced the machines to meet them. Other machines than the Royle machines are on the market today, but it may be said with perfect



MR. VERNON ROYLE

truth that the Royle machines are the standard, and no machines that are not modeled upon their lines are considered as approaching the standard. More in foreign countries than in our own is such imitation attempted, no effort being made to disguise such efforts by the builders of England and on the continent, where, on thoroughfare after thoroughfare, stand shops whose windows display photo-engraving machines, the only claims to excellence of which are based on such statements as "equal to the famous Royle machines," or "An exact imitation of the Royle," statements set forth in signs hung on the machines. It is illustrative of this attempt at imitation, however, that an American firm has within the last few months heralded as a great improvement a form of chip blower on a router that was designed by Ver-

non Royle more than a score of years ago and soon afterward abandoned as unsatisfactory and replaced by something better.

It is refreshing occasionally to find among men of commerce minds that are able to rise superior at times to the mere thoughts of money getting, and able to sacrifice such consideration, if needs be, for the sake of a principle. In the story of the building of the Royle planer is an illustration of this: A few years ago a number of prominent photo-engravers suggested to Mr. Royle that he endeavor to design a planer that would be capable of perfect work, such as no machine then in use could accomplish. He gave the problems involved his earnest attention and finally began to build the machine. In the bed alone of this machine was more metal than any other machine on the market had in its whole make-up, and in the new machine there was not the slightest imperfection, it being an ideal piece of mechanism. Expert mechanics and photo-engravers were invited to see the workings of the machine, and all alike were delighted, the mechanics by the beautiful action and working of the machine and the photo-engravers by the perfect results attained.

But it became apparent at once that the machine could not be built to be sold at a reasonable profit except by placing it on the market at a price about twice that which the average photo-engraver feels he should pay for such a machine. It was a question of making the price practically prohibitive or reducing the quality of the machine, and it was quickly decided in favor of quality.

"I shall be highly gratified whenever one of these machines is sold," said Mr. Royle, laughingly, at the time, "for I shall take it as a great compliment that a man is willing to pay twice what another machine would cost him in order to have one of mine, but I have tried so hard to get the price down to the lowest notch that the pride I may take in the sale will be my sole profit on the transaction."

Perhaps it has been the following of this principle, of building perfect machines without regard to the liability of competition with cheaper products, that has been instrumental in the advancement of the Royle shops from an establishment of no more than local fame to one that is today known throughout the world for the high class and the perfection of its machinery products. But whether this and the genius of Vernon Royle have accomplished this thing or not, certain it is that the art of photo-engraving and its followers owe much to Vernon Royle, so much indeed that future ages alone will be competent to estimate the true worth of his achievements and the true measure of his fame.

Measuring the Light in Studios

The Photometer Company of San Francisco has just perfected an instrument similar to the well-known photometer for amateurs for use in professional photographic studios. The new machine has many improvements over the amateur styles and is provided with a testing apparatus so that the strength of the electric current illuminating the indicator can be accurately adjusted at all times. The new instrument is destined to attract world-wide attention, for it eliminates all uncertainty in exposure under the skylight, the exact time being ascertained at a glance.

The principle of the machine is simple in the extreme, is ornamental, compact and unobtrusive. Full particulars can be had upon request to the manufacturers, the Photometer Company, Parrott building, San Francisco.

The New Way

Brief History of a Wonderful Invention

Every step in any light. That is the kodak way of picture making now. It's the simplest way, the easiest way, the best way, too. It opens up Photography to thousands who were situated so they couldn't do anything with it on the old basis.

It seems now as if the last thing had been done to make Photography so easy that it may become almost universal. The darkroom has been done away with. The Kodak Developing Machine develops film better than it can be done in a darkroom, and makes it practical to make pictures from start to finish almost anywhere.

The Kodak Developing Machine took the photographic world by surprise. It is only just now recovering from the shock. When the machine was first announced the number of those who smiled a smile of doubt was legion. Others conceived of the possibility of daylight development, but concluded that a method to do without a darkroom must be complex beyond any practical use.

The truth of the matter is that the Kodak Developing Machine works perfectly and is to the last degree simple. Anybody can operate one successfully from the outset and a developing machine of the largest size can be put into one end of an ordinary suit case.

Developing in the Kodak Developing Machine, is, of course, by timing. This is the theoretically correct method. The work which has been done with the machine shows it to be correct practically. The idea of being able to guide development by introducing different agents into the developer during development is losing ground fast—was losing ground, indeed, before the developing machine came. Along this line there has been much experimenting lately by advanced workers in Photography, and such are coming to the conclusion that to get good negatives any way you must have pretty nearly correct exposures. Of course, after-treatment of a negative is not affected by reason of its being machine developed. Time exposure and snap shots on the same strip of film are developed in the machine without the slightest trouble.

Were it only because it enables people to get the enjoyment of picture making without the bother and disagreeableness of a darkroom, the Kodak Developing Machine would be the greatest thing since the invention of the kodak. It transpires, though, that machine developed negatives are superior to the darkroom product in every way. One reason for this is that in the machine, developer and film are kept in constant motion. This gives snap to the negative. Then, the negative cannot be



POURING IN DEVELOPER

fogged by getting too close to a dark-room lamp—there is no chance of imperfections caused by foreign substances settling on the negative until it is fixed—it cannot be scratched or marred. The cost of operating the developing machine is trifling. A few cents worth of developing powders and fixing powders are all. These powders are used after simply dissolving them in certain quantities of water and the solutions are always right.

The kodak way is the only way in Photography which admits of "every step in any light," because the Kodak Developing Machine is the only substitute for the darkroom. See what this way of picture making means. See what possibilities open



DEVELOPING

up now to amateurs whose duties necessarily have prevented them from indulging to any great extent in Photography. Wherever one goes he can carry a folding pocket kodak and any number of extra rolls of film. He can take pictures himself and send the exposed film spools to one of the thousands of places where developing and printing is done. For those who want to finish their own pictures (and it's more than half the pleasure), being able to do every part of it in any light is invaluable. The point is: "The rest" in picture making can be done at one's ease and just when one happens to have the

time to spare. The struggle to get chemical mixtures right beneath the faint glow of ruby lamp belongs to the photographic Dark Ages.

The kodak way means picture making in the evening if you like, in the brightest, cheeriest room in the house around the library table. There film can be developed with the developing machine. There one can use any of the many delightful printing processes on gas light paper. Velox and Dekko are evening papers, giving most attractive prints. They are made in different grades, suited to all kinds of negatives and every sort of work.

The kodak way means being able to finish pictures while on one's travels—in the summer vacation or on business trips to interesting points. This is new, of course,

new within the year—possible only since the advent of the Kodak Developing Machine. Formerly the darkroom was left at home. The amateur went traveling with his kodak and took a whole summer's pictures. If he did his own developing and printing, he never knew what he had until he reached home—and the darkroom. Now he gets what pictures he likes, develops and prints on the spot. It's the best kind of vacation occupation. People traveling now picture interesting places they pass, and make their own prints on the train. It's not a bad way to relieve the tedium of long journey.

George Kennan, the well-known explorer and author, didn't have a developing machine with him in Cuba (they were not on the market then) and after having had experience with one he writes:

If I had had a Kodak Developing Machine with me in Cuba I should have saved a hundred or more photographs of the Santiago campaign which were spoiled in development by Cuban photographers.

(Signed) GEORGE KENNAN.

An illustration of the possibilities of the Kodak Developing Machine, and indeed the whole kodak system, is the experience of a correspondent who used a kodak and machine under the most trying conditions with great success. This correspondent, Captain Jas. F. Archibald, of *Collier's Weekly*, went through the Venezuelan campaign, developing kodak film with the machine in his tent at night after taking pictures in the field during the day. He also developed on shipboard pictures he took during the naval maneuvers. Although there were absolutely no facilities at hand and the heat terrific, Captain Archibald made perfect negatives which reached his paper while they were "news." He speaks of his experiences in the following letter:

WASHINGTON, D. C., February 9, 1903.

Eastman Kodak Company, Rochester, N. Y.:

GENTLEMEN—In ordering another Kodak Developing Machine I wish to express my great appreciation of this, the latest product of your company. I do not think I can praise it too highly nor that it could receive a more



POURING OFF THE DEVELOPER

thorough test than the one I have just subjected it to during the campaign in Venezuela and with the fleets during the blockade by the allied forces. Within four months I used it in temperatures from the hottest known tropical weather to a northern winter below zero, and without any special precautions the machine worked with perfection in all places.

The most important feature seems to be the even manner in which the machine develops instantaneous and time exposures on the same film. None of the brilliancy of either the long or short exposures is sacrificed in being handled in the same development. The machine also obviates all possibility of scratching the films, so common in hand development.

In the past four years I have made more than ten thousand negatives in all parts of the world, most of them being in a tropical country, and I have



THE FINISHED NEGATIVES

used a kodak and the Eastman films and find a uniformity of excellence in all temperatures and climates. The fact that the kodak film can now be obtained in all parts of the world is by no means the least important recommendation for it to be used for business and pleasure in travel. Now that the developing machine has been added to my kit, I feel that it cannot be improved upon for compactness and practicability.

With the abolishment of the darkroom by this wonderful invention, developing has become a pleasure and a possibility in the field, camp and on shipboard.

The use of this developing machine will, I am sure, become general with professionals as well as amateurs, for the saving in time and labor will recommend it to all who desire high-class work.

With sentiments of esteem, gentlemen, I am, Very sincerely yours,
(Signed) JAS. F. ARCHIBALD.

From a Chicago enthusiast comes this warm appreciation of the machine:
Eastman Kodak Company, Rochester, N. Y.:

GENTLEMEN—I intended writing before this to give you a good word for your developing machine. It's a dandy, and I wouldn't part with it for a good sum. Results! I have had the best of the best with it. Better than when I used my old darkroom. Darkroom!!! What a relief it is to finish my work without the use of one.

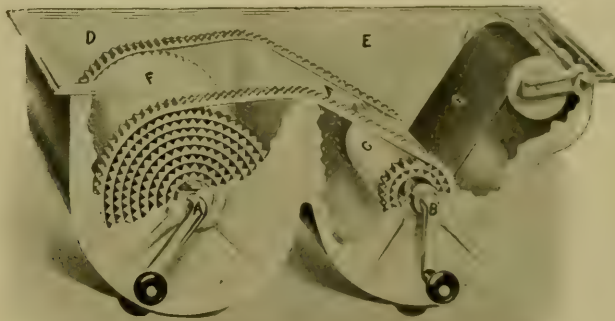
I was asked the other day how I get such good results. My answer was that I have the best of goods, two Eastman kodaks, and then I use an Eastman Developing Machine and, of course, why shouldn't I get the best results. I think I've won another person for kodak work. I'm finishing up some pictures and I'll send you some and let you see the fine results I'm having. I'm a great crank on your goods and supplies. If it's Eastman's it's O. K. That's what I preach to my friends, and it's just that which gave me my new kodak and developing machine. My outfit consists of kodaks (two), folding head tripod and down to printing paper all of Eastman make. I have used other makes in my six years' experience, but I prefer your styles and make, and best of all, the developing machine. I remain,

Yours with the best goods and finest results,

HAROLD P. COFFIN.

227 Leavitt street, Chicago.

As a part of their system the Eastman Kodak Company has established the Kodak Correspondence School of Photography. Nobody needs instruction for using kodaks and kodak goods beyond the simple manuals which accompany them, to be



THE KODAK DEVELOPING MACHINE

A-B—Arbors for winding the film. C—Film. D—Compartment for storing apron.
 E—Developing chamber. F—Apron. G—Film inside apron.

sure. Kodaks are too simple for that. The school was founded with the idea of helping amateurs do the best work in the shortest possible time. The school, started last year, now has members from the Philippines, Porto Rico, Alaska, many of the countries of South and Central America and from every state and territory in the Union. The school is in charge of men whose knowledge of Photography is thorough and each pupil is given the instruction he needs most. The system employed is that of individual criticism of members' work as indicated by negatives and prints which they send in. Any owner of a kodak or Brownie camera may join the school upon payment of the nominal sum of \$1 for text-books. Although the school was intended at first for beginners, it soon outgrew that idea and now its membership rolls have the names of hundreds of amateurs far advanced in the art of picture making.

Color Photography

A Brief Resume of What Has Been Done and the Future Prospects of the Process

By H. D'ARCY POWER, M. D.

Color Photography, that is the reproduction of the true colors as well as the forms of external objects by Photography, is attainable by two routes—one produces directly by the action of light on a sensitive surface the required picture—such processes are called “direct;” the other yields the colored picture after an intermediate printing or dyeing process. Such are said to be indirect. It is the latter only that have an immediate commercial future.

Of the direct color processes one of the earliest and most interesting is that named after its discoverer, Lippmann. It is dependent on the reflection of waves of colored light through a thin transparent film in contact with a highly reflecting surface. The image that is thus produced must then be viewed by light striking the surface at the angle of incidence. These requirements are difficult in practice. The negative has to be very thin and grainless. It is exposed in the camera through the glass, the film being in contact with a bath of mercury. The exposure is very long and the plate must be used the day it is made. The result is a negative by transmitted light, but a colored positive when viewed by reflected light at the correct angle. To secure perfect purity in the coloring it is necessary to cement a glass prism to the negative. Most perfect results have been obtained by this process, but, as can be seen from the above description, they have no commercial value, nor do they offer any prospect of one. Those who desire further information on the matter may find it in “A Handbook of Photography in Colors,” by Messrs. Bolas, Lallent and Senior (Marion & Co., London), also in “Photographie des Coleurs par la Methode Interferentielle, de M. Lippman,” par A. Berget, published by Gautier-Villars, Paris; also in an article by A. V. Kenah, *British Journal of Photography*, volume L, No. 2230. There is also an excellent explanation of the principles involved, in a lecture by Dr. Lindsay Johnson, reported in the *Photographic Times Bulletin* of December, 1902.

Of the greatest promise, though as yet incapable of practical use, are the methods of selective bleaching that have recently been investigated by Dr. Neuhauss and Herr Worel, besides many others. They are dependent on the fact that many aniline colors bleach rapidly in sunlight (as the users of such pigments know to their cost), but this bleaching is solely due to the absorption of one or both of the colors contained in the complimentary to the color bleached. Let me explain with an example. Take a piece of paper and stain it with one of these fugitive dyes, say a blue, and put it out in the sun under a negative. In a short time there will be bleaching proportionate to the light that passes through the negative, the largest amount of bleaching being under the more or less clear glass of the shadows, with the result that a blue paper negative will be left. Now repeat the experiment, covering the printing frame with a piece of yellow glass and the same effect will follow; such also will be the case if it be covered by red glass; but if it be covered with *blue* glass no bleaching will occur. *Blue light will not bleach a blue color.* If we had used a red dye on the

paper we would find that it could not be bleached by red light, nor a yellow dye by yellow light. Let us see how this fact may be applied to the production of a photograph in colors. Let us focus on the ground glass an orange and a tomato on a blue plate. Where the image of the orange falls the plate is illuminated with yellow light, where the tomato appears, with red light, and round about is the blue zone of the plate. If we let this image fall on the piece of blue dyed paper the latter would bleach everywhere except where the image of the blue plate fell, and after a sufficient exposure it alone would be left on the paper—the blue image of a blue plate. Had we used paper dyed red we should have secured a picture in red of the tomato, or if in yellow, of the orange. This is selective bleaching. Now supposing we had stained the paper with all three of the dyes it is evident that under the image of the plate the red and yellow dyes would bleach away, leaving the blue. Under the orange the blue and red would fade, leaving the orange; under the tomato the blue and yellow would disappear, leaving the red. Thus we should have produced in the camera a replica in color of the objects photographed. Moreover, as red, yellow and blue by their combination produce all other tints and as the fading would be proportionate to their existence in the image so would these intermediate tints and shades be also reproduced in more complicated pictures than the one I have described. Such is the basis of the bleaching-out process. Practically, it has many difficulties, many of which are in a fair way of being surmounted. To begin with, fugitive as are many of these dyes, they are not fugitive enough to allow of the bleaching to occur in such times as are photographically useful. This difficulty is being overcome by the addition of various chemicals to the dyes whereby the sensitiveness to light is greatly increased. Among these are various oils of the turpentine family such as anisol (used by Worel) and mixtures of gelatine, hydrogen peroxide and ammonium persulphate, as recently described by Neuhauss. By these additions Worel claims to have produced colored pictures in five minutes, though Neuhauss seems skeptical and says this figure needs multiplying by ten. Secondly, perfect purity in the reproduced colors is often difficult of attainment because the rate of bleaching is not equal for the three primaries, and in making the color mixture this has to be allowed for, which is a matter of judgment and therefore liable to error. Thirdly, the colored picture is rapidly destroyed by exposure to light. This liability being the condition of its production. It has to be fixed, and satisfactory progress is being made in the discovery of mordants. Dr. Neuhauss, in the December number of the *Photographische Rundschau*, states that he has had perfect fixation without alteration of color by immersing the washed plates in a 10 per cent solution of tannin containing a small addition of sodium acetate, followed by washing and immersing in a saturated solution of tartar emetic, again washing and immersing in a saturated solution of lead acetate, followed by a final washing. Those who are desirous of following up this method, I would refer to the articles in the January and December numbers of the *Photographische Rundschau* by Dr. R. Neuhauss, and Herr Worel's articles commencing November 1, 1902, in the *Photographische Mitteilungen*. These contain full working directions.

We must now turn to the indirect methods that, at present, are the only ones giving practical results. They are all dependent on the fact that all the colors can be compounded from three primary colors, which in the case of pigments are red, yellow and blue, and in the case of spectral colors or lights are yellow-green, red and

violet blue. Furthermore, it is possible to strain out from a mixture of colors any two primaries by passing the light through a piece of glass or a cell of fluid stained with the color to be passed. For example, red glass passes only the red rays, the yellow, green and blue violet being absorbed by it. If, therefore, we make three negatives of our previous example, the orange and tomato on a blue plate, each negative being made through a red, a blue and a yellow color screen respectively, we would obtain (supposing for a moment that the colors were pure) a negative through the red screen showing only the tomato, that through the blue screen giving only the plate, and the negative taken with the yellow screen impressed by the image of the orange. As a matter of fact, the tomato is not a pure red, but contains both blue and yellow, and therefore appears, though faintly, on both the other plates, and this is true of all other natural objects. But each plate is a record in black and white of the colors contained in the thing photographed, not in masses as they appear to the eye, but as a spectroscopic analysis would show them to exist. Now let us return to our three negatives, each of which is a record of a given color. From each of these we can make a process block in the usual manner, and by three successive printings in red, blue and yellow inks we obtain a picture in colors, at one point pure, at another overlapping where they produce the intermediate tints corresponding to the original. This is the three-color printing process which is now largely supplanting chromolithography in the production of colored illustrations. Or we can make three positives by the carbon process in non-pigmented, bichromated gelatine. These transparent colorless positives, consisting of nothing but gelatine in relief, can then be dyed each in its proper dye and superimposed on a paper support and dried. When, in the same manner, a colored photograph results. This is the Lumière process and is in commercial operation. Or, we can use these transparent gelatine positives as printing dies. In this case they are made of very hard gelatine, are then soaked in the required dye and squeegeed on to a prepared paper surface and after a few seconds' contact are stripped off, leaving a colored impression on the paper; by repeating this operation with each print in register we obtain a colored photograph in dyes, and the gelatine positives may be used over and over again. This is the Sanger-Shepherd process which is also on the market.

It is now pertinent to inquire how far these processes are a success, how far are they available to the average photographer and what are the special difficulties of each.

Simple as is the theory of trichromatic photography, its practice is beset with many difficulties. To begin with, the light filters used to produce the three negatives must be so made that together they pass all the colors of the spectrum, whilst individually they must not overlap. The patient research of many investigators has given us formulæ that fairly fulfil these requirements (see Hubl's *Drei-farben Photographie* and abstract in CAMERA CRAFT, March, 1902). Then again the dyes or inks in which the positives are reproduced must equally fulfil these conditions. This is not so easy of attainment, but a workable success has been achieved. Granted these conditions, it is still necessary to stain the films or charge the type with just so much of each color that the correct tonality be preserved. This is a matter of judgment and cannot be reduced to mechanical rule. The next difficulty is in the plates. Ordinary plates are almost insensitive to reds and yellows. An immense amount of research has given us sensitizers rendering the emulsions sensitive to any portion of the

spectrum. In the application of these sensitizers practice differs. Thus Lumière uses three different plates specially sensitized for each color. Ives uses one plate sensitized for the whole spectrum. Here another difficulty confronts us in that the silver emulsions, though rendered sensitive to all the colors, are not equally effected by them so that the exposure time differs for each filter and the relative time for each has to be experimentally determined with the plate in use (vide *CAMERA CRAFT*, January, 1902).

The three color negatives can be taken consecutively, but the amount of time necessary to impress a plate by colored light renders the photographing of moving objects impossible, and indoor portraiture equally so. Outdoor portraiture has been successfully accomplished by Dr. Miethe, whose first published portrait, a girl with a red sunshade (reproduced in the December, 1902, *Photographic Times Bulletin*), was taken in seven seconds. Since then he has given us in the January *Photographische Rundschau* a beautiful photograph in color containing two figures, the sum of the exposure for the three plates being four seconds. Still life of course presents no difficulties, and in its reproduction three-color printing is rapidly growing in popularity.

The three negatives having been successfully made we have still to face difficulties with the positives. In the Lumière and Sanger-Shepherd processes the dye absorbed by each film has to be of just the strength necessary to produce the secondary tints when superimposed. In trichromatic printing the same difficulties have to be overcome. Again, the films must be superimposed in exact register and the same is true of the printing. It is needless to say that work of this kind requires patience, skill and practice. My object in writing this paper has been to tell the truth in regard to color Photography for the benefit of those who know nothing about it but may have vague ideas of taking it up. I have, therefore, given full weight to its difficulties, but I would on no account have such a reader gain the impression that these are beyond the skill of an intelligent man who seriously takes the work in hand. They are similar to those of other technical operations in Photography, and rapidly diminish with practice; but let no one be deceived by the flowery statements of careless or interested writers that success is attainable without serious study and work. It is more difficult than carbon or multiple gum printing, and these are not considered easy processes.

If we now ask what success has been achieved and how far has it a pecuniary value, the answer is not quite easy to give. The Sanger-Shepherd process is only just on the market, but those who have seen its products speak highly of them. The materials and directions for working it are obtainable from the Sanger-Shepherd Company, 5 Grey's Inn Passage, Red Lion street, London, which also requires the purchaser to take out a license for its use. The Lumière method of superimposed films has been an undoubted success in the field of lantern slides. No hand-colored slide can compare with them and in certain fields, such as the production of microphotographs of stained tissues, they have a great future. The materials for this process and directions for working are obtainable from the Lumière N. A. Company, 4 Bloomsbury street, London, England. A full account of the process is published in this year's *British Journal of Photography Almanac*, p. 894. The Sanger Shepherd Company also sell materials and directions for lantern slides in natural colors and most of the material used in color Photography. A post card to either of these firms

will provide the writer with full information. Also read the articles by A. E. Talboys, commencing in the January number of CAMERA CRAFT. Trichromatic Photography for the reproduction of paintings is in operation in nearly all large cities, and will undoubtedly entirely replace chromo-lithography before long. The false tints of the first products of the process are now rarely seen, and recent work, especially the German, is all that could be desired. The general photographer can hardly be expected to set up a half-tone outfit and a printing press. But there is nothing to prevent him making the three-color negatives from which the nearest three-color printing firm could supply the positives. Any one who has seen the previously mentioned colored photographs made by Dr. Miethe will be convinced of the immediate commercial practicability of such work. Those who are desirous of going further into the matter can obtain detailed information from the articles of the father of the process, Mr. F. E. Ives (see *Journal of the Franklin Institute* and p. 885 *British Journal of Photography Almanac*), and Hubl's last edition of "*Die Drei-farben Photographie*," published by W. Knapp Halle, Germany. Also read abstract of Mr. Geddes Cantor's lecture in February *Photo Era*.

This account of color photography is fragmentary, but I trust it may be of use to the class of readers for whom it is written. That there is a great future for Photography in natural colors I have not the least doubt, nor am I skeptical of a pecuniary reward to those who immediately take up its present application.

An Elaborate Catalog

What promises to be one of the most elaborate photographic catalogs ever published will shortly be issued by Kirk, Geary & Co. of Sacramento and San Francisco. This catalog will be in the nature of a digest and will contain a brief and concise resumé of every new and important move in modern Photography. Much time and care have been devoted to this feature of the catalog, and men experienced in all of the most interesting processes have contributed to its makeup. Magnificent engravings of many of the leading pictures made during the last several years will be used in illustrating the matter.

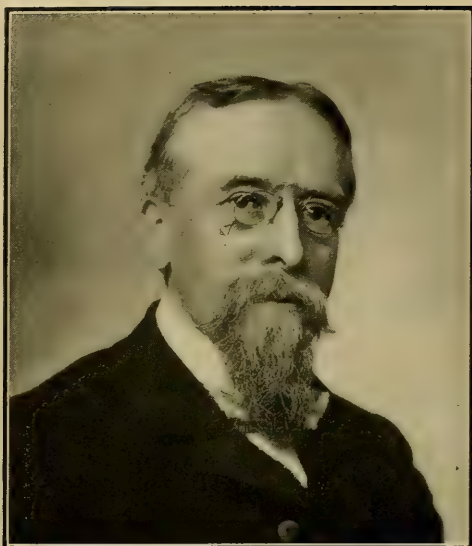
In addition to the regular half-tone engravings of new cameras and appliances the book will contain over thirty-five three-color engravings made directly from the objects. The colored frontispiece of this number of CAMERA CRAFT is a specimen page from the catalog. Nothing has been spared to make the catalog interesting and the publication will create a precedent in the world of Photography that will likely prove to be the starting point for a complete revolution in the makeup of photographic advertising matter. The catalog will contain two hundred and fifty-six pages printed on the finest of book paper and bound in a cover embossed in gold.

Full particulars as to how this catalog may be obtained can be had free of charge at either the San Francisco or Sacramento offices of Kirk, Geary & Co.

A SERIES OF PORTRAITS OF
THE LEADING MANUFACTURERS
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IN THE UNITED STATES

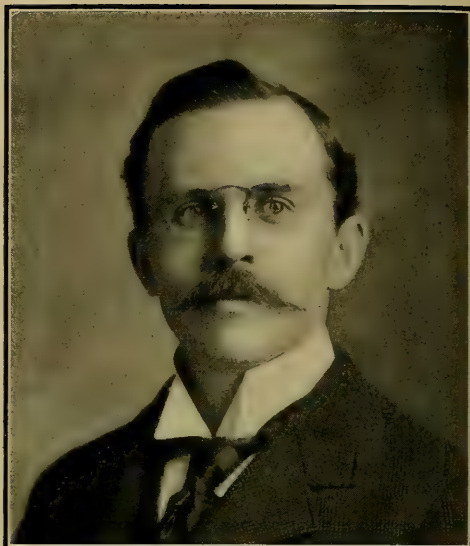


MR. GEORGE EASTMAN, OF THE EASTMAN KODAK COMPANY, AT HIS DESK. MADE EXPRESSLY FOR THE
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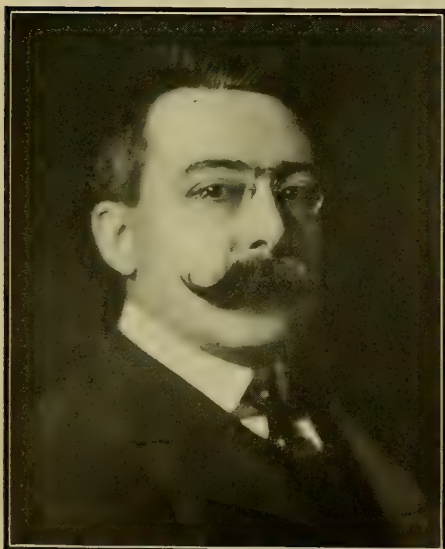
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PRESIDENT OF THE M. A. SEED DRY PLATE COMPANY OF ST. LOUIS. SEED PLATES ARE KNOWN IN EVERY VILLAGE AND HAMLET THROUGHOUT THE COUNTRY, AND TO THE RIGID ADHERENCE TO CLEAN BUSINESS PRINCIPLES ON THE PART OF MR. SEED IS DUE THE WONDERFUL GROWTH OF THIS BUSINESS



MR. MAURICE GENNERT

MR. GENNERT IS AT THE HEAD OF THE BUSINESS OF G. GENNERT, NEW YORK, AND HAS BEEN MORE THAN SUCCESSFUL IN CARRYING ON THE IMMENSE BUSINESS INTERESTS FOUNDED BY G. GENNERT, WHOSE DEMISE SOME FEW YEARS AGO WAS A SOURCE OF REGRET TO THE ENTIRE PHOTOGRAPHIC TRADE.



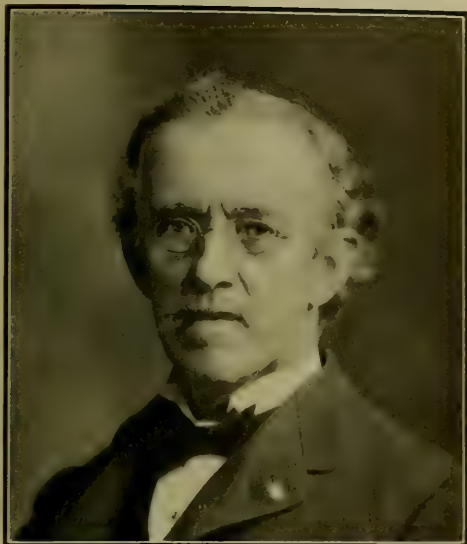
MR. W. I. SCANDLIN

FOR MANY YEARS MR. SCANDLIN HAS SERVED THE PHOTOGRAPHIC PUBLIC AS AN EDITOR AND FLUENT WRITER ON PHOTOGRAPHIC TOPICS. HE IS NOW ENGAGED IN THE MANUFACTURE OF PHOTOGRAPHIC ADVERTISING WITH HEADQUARTERS IN NEW YORK, AND IS RAPIDLY BUILDING UP A CLIENTELE OF GOODLY PROPORTIONS



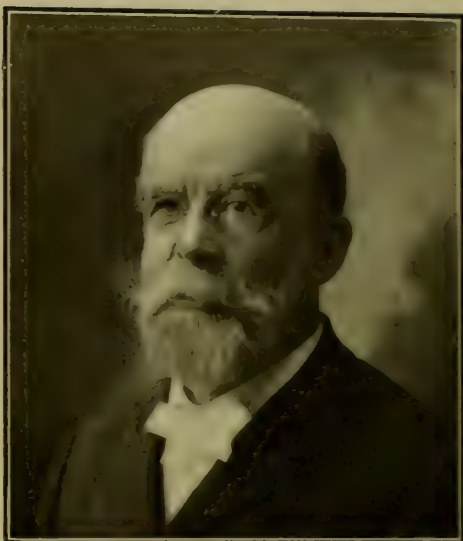
MR. ADOLPHE J. HEINN

THE REPUTATION OF MR. HEINN AS ONE OF THE BRIGHTEST BUSINESS MEN IN THE PHOTOGRAPHIC TRADE HAS LONG BEEN ESTABLISHED, FROM MAINE TO CALIFORNIA. HE IS PRESIDENT OF THE HEINN SPECIALTY COMPANY OF MILWAUKEE, MAKERS OF THE BADGER AND OTHER NOTABLE ALBUMS



MR. G. CRAMER

AT THE NATIONAL GATHERINGS OF THE PHOTOGRAPHERS "PAPA" CRAMER IS A DISTINGUISHED FIGURE. HE IS KNOWN AS THE FRIEND OF THE PHOTOGRAPHER, AND AT THE GREAT DRY PLATE WORKS IN ST. LOUIS, OF WHICH HE IS THE HEAD, THEY SPEAK OF HIM AS "PAPA," EVEN AS DO THE BIG PHOTOGRAPHERS OF THE COUNTRY



MR. L. F. HAMMER

MR. HAMMER IS THE THIRD MEMBER OF THE THREE GREAT DRY PLATE COMPANIES IN ST. LOUIS, BEING PRESIDENT OF THE HAMMER DRY PLATE COMPANY. THE BUSINESS OF THIS COMPANY HAS INCREASED WONDERFULLY DURING THE PAST FEW YEARS, NECESSITATING GREATLY INCREASED FACTORY FACILITIES



MR. HENRY H. TURNER

THE MERGING OF THE MANHATTAN OPTICAL COMPANY OF NEW JERSEY WITH THE GUNDLACH OPTICAL COMPANY OF ROCHESTER HAS ADDED GREATER RESPONSIBILITIES TO THE DUTIES OF MR. TURNER, PRESIDENT OF THE GUNDLACH-MANHATTAN OPTICAL COMPANY, BUT THE NEW PRODUCTIONS OF THE COMPANY INDICATE THAT THE RESPONSIBILITIES ARE NOT TOO GREAT TO BE READILY HANDLED



MR. J. M. WALMSLEY

THE CENTURY CAMERA COMPANY, OF WHICH MR. WALMSLEY IS PRESIDENT, HAS WITHIN A FEW YEARS MADE A WORLDWIDE REPUTATION THROUGH THE PRODUCTION OF CENTURY CAMERAS. MANY NEW FEATURES IN CAMERA CONSTRUCTION HAVE ORIGINATED IN THE FACTORY OF THIS COMPANY AND THE TRADE HAS BEEN IMMENSELY BENEFITED THEREBY



MR. L. B. ELLIOTT

AS THE ADVERTISING MANAGER OF THE BAUSCH & LOMB OPTICAL COMPANY, OF ROCHESTER, N. Y., MR. ELLIOTT ENJOYS A KNOWLEDGE OF THE INTRICACIES OF MODERN OPTICAL CONSTRUCTION THAT PECULIARLY FITS HIM FOR THE DIFFICULT POSITION HE HOLDS. MR. ELLIOTT IS THE EDITOR OF "THE JOURNAL OF APPLIED MICROSCOPY," THE LEADING PUBLICATION OF ITS CHARACTER IN THIS COUNTRY



MR. ED. H. PACKARD

MR. PACKARD OF PACKARD BROTHERS, BOSTON, MASS., IS THE DEAN OF THE PHOTOGRAPHIC BACKGROUND TRADE OF AMERICA. THE ENTIRE ESTATE OF THE LATE L. W. SEAVY WAS RECENTLY PURCHASED BY THIS COMPANY, AND THE HUNDREDS OF DESIGNS MADE FAMOUS BY MR. SEAVY CAN NOW BE HAD BY PHOTOGRAPHERS



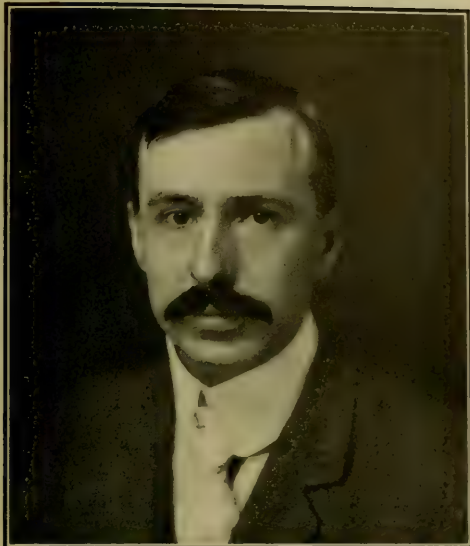
MR. J. L. C. HOLST

MR. HOLST IS THE AMERICAN REPRESENTATIVE OF C. P. GOERZ, OF BERLIN, WITH HEADQUARTERS IN NEW YORK, AND IT IS LARGELY DUE TO HIS EFFORTS THAT GOERZ LENSES HAVE BEEN MADE SO POPULAR DURING LATE YEARS. MR. HOLST EXPECTS TO VISIT THE PACIFIC COAST DURING THE COMING SUMMER



MR. B. RUSSEGGER

AS THE HEAD OF "ROTGRAPH" IN AMERICA MR. RUSSEGGER HAS ATTAINED A REPUTATION FOR VIGOROUS BUSINESS METHODS THAT SHOULD GIVE HIM AMPLE CAUSE FOR SELF-CONGRATULATION. IN A FEW YEARS MR. RUSSEGGER HAS BUILT UP A LARGE BUSINESS THAT IS CONSTANTLY INCREASING



MR. JUAN C. ABEL

MR. ABEL IS THE MANAGER OF THE HELIOS PAPER COMPANY, OF NEW YORK, EDITOR OF "CAMERA NOTES" AND A PHOTOGRAPHIC WRITER OF PROMINENCE, HAVING CONTRIBUTED TO MANY OF THE LEADING MAGAZINES OF THE COUNTRY. HE IS ALSO ASSOCIATED WITH THE NEWLY REORGANIZED PROSCH COMPANY, AND IS, ALL IN ALL, A VERY BUSY MAN



MR. JOHN CARBUTT

FEW MANUFACTURERS OF PHOTOGRAPHIC SUPPLIES HAVE GIVEN THE PERSONAL CARE AND ATTENTION TO THE DETAILS OF THE BUSINESS AS HAS MR. CARBUTT. FOR MANY YEARS HE HAS BEEN STUDYING THE NEEDS OF PHOTOGRAPHERS, AND AS THE PRESIDENT OF THE CARBUTT DRY PLATE AND FILM COMPANY HE IS KNOWN THE COUNTRY OVER



MR. W. P. BUCHANAN

LUXO FLASH POWDER AND BACKGROUNDS ARE THE TWO SPECIALTIES THAT HAVE MADE PHILADELPHIA AND MR. BUCHANAN'S NAME FAMOUS IN SIX COUNTRIES. HE ALSO ENJOYS THE DISTINCTION OF PRODUCING THE ONLY PHOTOGRAPHIC PUBLICATION IN EXISTENCE PRINTED IN FOUR LANGUAGES. ALL OF WHICH HE SPEAKS FLUENTLY



MR. PAUL J. STUPARICH

NINETENTHS OF ALL THE PHOTOGRAPHIC MOUNTS USED BY WESTERN PHOTOGRAPHERS ARE MADE BY THE STUPARICH MANUFACTURING COMPANY, OF WHICH MR. STUPARICH IS PRESIDENT. THE GREAT INCREASE IN THE BUSINESS OF THE STUPARICH COMPANY NECESSITATED THE BUILDING OF AN IMMENSE NEW PLANT WHICH HAS JUST BEEN COMPLETED.

The "Proschlite" Storage Flash Lamp and the "Diaplane"

Two New and Interesting Productions

The Prosch "Lightning" and "Professional" Storage Flash Lamps have been the standard flash lamps among professional and advanced amateur photographers for the past fifteen years. But these lamps, on account of their immense capacity and their cost, have been beyond the needs of the average amateur who, while he has found the numerous cheap flash devices on the market inadequate for his use and has been searching for something capable of doing serious and practical work, could not afford to pay even \$4.50 for any flashlight device. It is to meet his requirements that the Prosch Manufacturing Company of New York city is just now placing on the market a new flash lamp that will be within his reach, and yet embody all of the strong features of the other Prosch lamps.

This little lamp, which is to be known as the "Proschlite," is the safest, most compact and yet the most powerful flashlight device ever offered to the amateur. Like the other Prosch lamps, it is designed for the use of pure magnesium exclusively, as this is the only powder that the amateur can use with safety. While its size is but 3 x 3 x 3½ inches it gives a vertical sheet of flame of 100 square inches, which can be made instantaneous or can be prolonged for any length of time up to five or more seconds at will.

This feature of the prolonged flame in flashlight photography is no doubt a new one for most amateurs to have within their reach, although their more advanced brethren have been using the blowlight flame with the Prosch lamps for many years. With the *size* and *duration* of the flame entirely within his control, as it is in the new "Proschlite" lamp, the amateur has now almost unlimited possibilities in his flashlight work.

There is absolutely no danger of accidents in using the Prosch lamps unless one goes contrary to directions and uses compound powders instead of pure magnesium. These compounds should never be used in flash lamps, and even under the best conditions they are not safe for any but the most careful worker. Pure magnesium, such as the manufacturers of the Prosch lamps prepare for their lamps, is sufficiently powerful for any purpose. This special quality of magnesium is absolutely free from all foreign substances and is very finely ground so that even under adverse climatic conditions it will not clog in the lamps.

The New Model Prosch Shutter

The Prosch "Triplex" and "Athlete" shutters have been the favorite shutters among professionals, newspaper and magazine photographers, lecturers, travelers, etc., for the past fifteen years. This is because of their extreme range of speed and great illumination, in both of which features they more than double the power of any other shutters working at the diaphragm. Their method of illumination, in opening

from the center and closing to the center again in *one double pass-by movement*, with an opening shaped like a "V" upside down, which gives the foreground more light than the sky, is the only scientifically correct exposure. All other shutters working at the diaphragm give, in a *single pass-by movement*, an exposure from one side to the other, or, as in the iris diaphragm type, an *open and shut movement* that practically cuts off over one-half of the proper amount of illumination. The iris diaphragm shutter gives only the illumination of a small stop which is just one-half the opening for which the shutter is set. What it gains in *depth* it more than *loses in illumination and speed*. The double pass-by movement, which is controlled entirely by the manufacturers of the Prosch shutters, is the only one which gives at the same time all of the results desired by the practical photographer—that is, great



ATHLETIC PICTURES MADE WITH THE PROSCH SHUTTER

range of speed from the slowest to the most rapid, correct and full illumination as well as depth of focus.

There has been such a great demand for these shutters among the various classes of professionals mentioned above, that the manufacturers have neglected, up to this time, to supply a model of shutter specially adapted for the amateur's use. Their regular model for amateurs will not be placed on the market until next season, but a new model embodying all of the good features of the "Athlete" and "Triplex" models and many new ones has just been announced for this season.

This shutter, the Diaplane, is smaller and more compact, and the parts which are all adjusted to the front of the shutter, are crowded into smaller space so that this model is especially adapted for use with hand cameras. It has a range of speed from time and bulb to 1-300th of a second, which makes it suitable for the most rapid work that the professional or amateur will be called upon to do, as well as for slow work.

The Manufacture and Use of Orthochromatic Plates

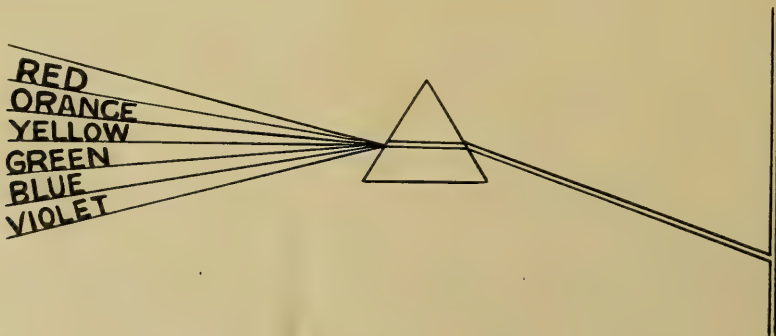
By J. E. HUISKAMP, M. A. Seed Dry Plate Company

The literature of orthochromatic photography is filled with misleading terms, "orthochromatic" (true color) "isochromatic" (equal colors) and "color value in monochrome." Photography is not concerned with color *per se*. It cannot be, because, when of necessity we choose a monochrome, black and white, to express the contrasts we see in nature, we limit ourselves to those contrasts whose relation can be expressed by a scale of values running from pure white to dead black, that is to differences of quantity or intensity of light; contrasts of light and shade alone.

Suppose we have side by side on the ground glass a patch of blue and a patch of yellow of equal brightness, the eye distinguishes a contrast, because rays of different wave lengths give rise to different sensations upon the retina. But, though the retina distinguishes a difference in quality, it distinguishes no difference in quantity or intensity; both are equally bright. They should be represented by one patch of uniform depth in the print. From this it can be seen that there is no such thing as "color value in monochrome." Value depends entirely on light intensity. Let us say, therefore, that in each photograph we wish to represent, truthfully as may be, each light intensity in the image on the ground glass without any regard to its color.

That is just where we get into trouble. We wish to disregard color. We find we cannot on account of the imperfection of the process. Patches of blue and yellow of equal brightness on the ground glass are represented in the print as white for the blue and dead black for the yellow; a violent contrast where there should be none. In fact, the sensitiveness of the plate is so different from that of the eye in regard to light intensities which happen to be of different color, that continually we find reversals, no contrasts where contrasts are quite apparent to the eye, and violent contrasts where no contrasts are seen. For this reason we lose clouds in landscapes and distant mountains on the horizon.

Though the ordinary way of working serves to point out this glaring defect in the process, we merely guess at its extent, for the colors of nature are more or less mixed with white light and will not for this reason serve for accurate measurements. We, therefore, turn to the spectrum.



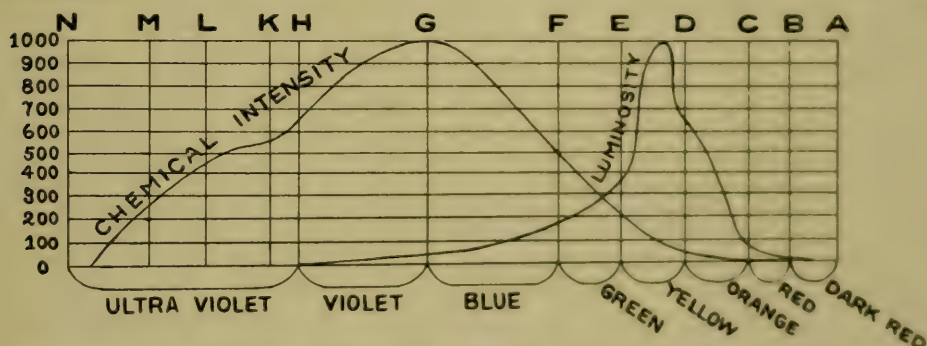
When we pass a narrow beam of light from the sun through a triangular prism of glass, it is, on emerging, spread out into a band of colored light, in which we find the colors in this order: Violet, blue, green, yellow, orange and red.

This colored band is called the spectrum. Its colors are pure. It is crossed by a number of dark lines called the Fraunhofer lines, which never change their position, and serve therefore as an index for the position of the colors. Here we have a standard for purity of color. But in this spectrum the colors are not of equal intensity. The method of procedure is then to measure both the optical and the chemical intensities of the different portions of the spectrum and from these measurements figure their relation.

Taking the greatest intensity found in each set of measurements as 1000 we find these relative intensities:

	Lines	Luminous Intensities	Chemical Intensities on Silver Bromide
Dark red	A	Just perceptible	0
Red	B	32	5
Bright red	C	94	10
Orange	D	640	50
Yellow	D-E	1,000	100
Green	E	480	200
Blue	F	170	500
Indigo	G	31	1,000
Violet	H	6	650
Ultra violet	H—	0	450

This table is taken from "The Chemistry of Photography," by Jerome Harrison. The high points are indigo and yellow, from column 1 yellow should be about 30 times more sensitive than Indigo. In column 2 it is found one-tenth as sensitive, that is, the ratio is about 300 times reversed. If we represent these values by graphic curves we can better see the differences. Here we have the curves drawn on a chart in which each horizontal line represents 100 units. The vertical lines represent the Fraunhofer lines:

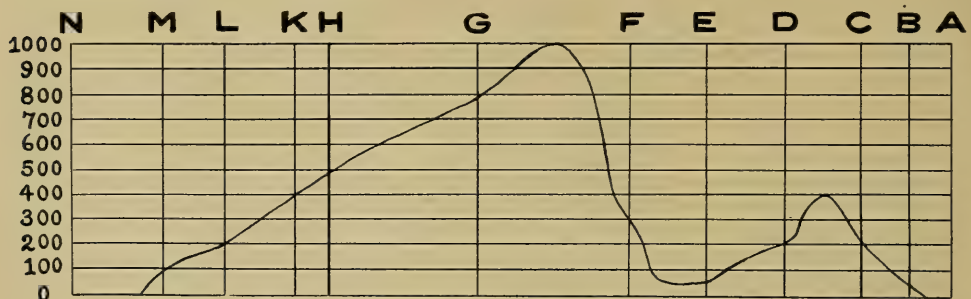


From this table we find that ultra violet rays which have no luminosity, that is, are not visible, have a strong chemical effect. This means that light we do not see at all plays a great part in making our pictures. Let us make a few comparisons from the chart, of the light we do see. Blue light (G) has about 32 times the effect it should have. Orange light (D) has about one-thirteenth the effect it should have, a reversal of contrast of about 400 times.

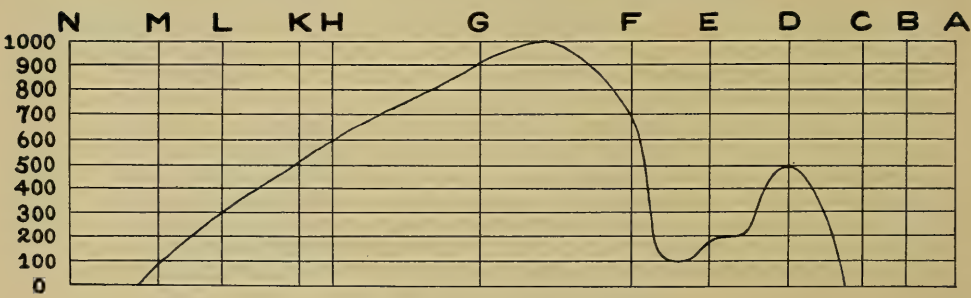
This brings the problem up to the platemaker in a concise form. He has then to find some substance which will be sensitive to portions of the spectrum in direct proportion to their brightness, or, as in table 1; or to find some way of altering the ratio of relative intensity in silver bromide to that it shall conform to table 1.

The second scheme has been the one generally followed. It should be kept well in mind that the relative sensitiveness must be altered; if we change the sensitive-

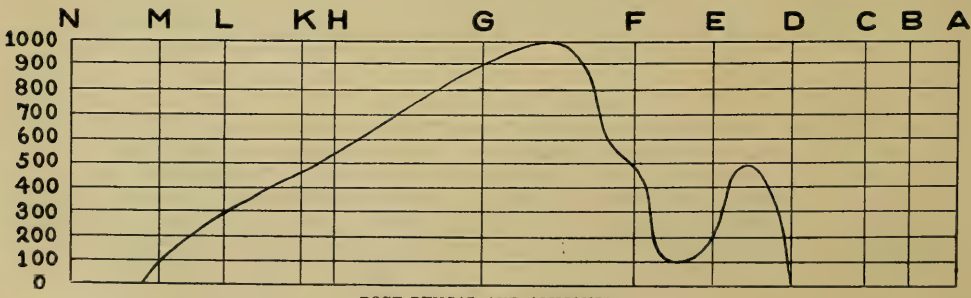
ness of the plate to yellow and at the same time make a proportionate increase to blue, nothing is gained. Substances which have the power to alter the relative sensitiveness of silver bromide are found among the coal tar colors; eosine, erythrosine, rose des alpes, cyanine, nigrosine, diazo black and alizarine blue-bi-sulphite. Solutions of these substances absorb different portions of the light of the spectrum. For instance, a solution of erythrosine absorbs the yellow and yellow green light tone D-E in the spectrum. Rose des alpes absorbs the green, cyanide the red. Silver bromide stained with erythrosine is strongly sensitized for yellow light. The dye sensitizes to the light which it absorbs. This is the general rule. It is also a general rule that dyes which have strong absorptions and also sensitize strongly are limited to narrow bands of the spectrum in their action. Here are charts taken from Eder's "Handbuch der Photographie," showing the sensitizing action of a few dyes:



SENSITIZING ACTION OF CYANINE UPON SILVER BROMIDE



EOSIN STAINED SILVER BROMIDE



ROSE BENGAL AND AMMONIA

It is impossible to cover the whole spectrum with one strong sensitizer or with any set of sensitizers, there will always be gaps. Even if this were possible it would be vain to hope that by the absorption of the stained silver bromide we should entirely upset this original scale of sensitiveness of the unstained salt. Orthochromatic plates are therefore at best, but poor approximations of the ideal plate which should

be sensitive throughout the whole range of the spectrum in direct proportion to its brightness; that is sensitive to light intensity without regard to its color.

So the method of staining the emulsion falls far short of giving correct luminosity contrast, but we have another string to our bow. Evidently if we cannot increase the sensitiveness of the plate to yellow and red light, something might be done to decrease its sensitiveness to blue and violet light. Unfortunately this is not yet possible to any marked degree. However, we have a method of accomplishing the same effect, that is by placing a transparent yellow screen in front of the lens. This passes yellow light freely and cuts off more or less all the blue. It will be seen that if this screen cuts off absolutely all the ultra violet rays (invisible but chemically active) and if its shade be changed till its cut out compensates exactly for the too great intensity of the blue, we would have perfect representation so far as blue and yellow lights were concerned. But the other colors must be considered. I have shown that the sensitizing action of any dye or set of dyes is very uneven. Now the screen or filter should take care of these gaps. That is, it should be carefully adjusted so as to compensate in its action the unequal sensitiveness of the plate with which it is to be used. The process of adjustment is a long and tedious one. I have pointed out that in practice we find the colors of nature very much mixed with white light, which is reflected along with colored light from colored surfaces. It is evident, therefore, that the final adjustment in proportion of different dyes for the proper cut off must be made by a camera test. A chart containing the seven colors graded to equal luminosity is photographed. The dyes are changed till proper results are obtained. Mr. R. James Wallace gives a splendid description of the process in detail in *Photo Miniature* No. 45. The worker is now saved this trouble by the platemakers who supply perfectly adjusted screens for use with their orthochromatic plates. From what I have said already the absolute futility of hoping to obtain correct luminosity contrast in a subject of colors, without the use of an adjusted screen, is apparent. We now come to the practical side, exposure and development.

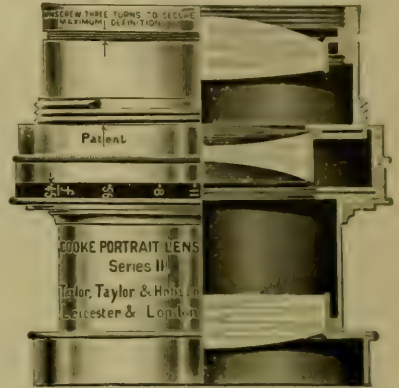
Theoretically, a perfect negative is one in which all portions transmit light in inverse proportion to their counterparts in the image. There is a limit to our expression of this contrast which is imposed by the plate. Presuming that the exposure is correctly timed so as to show detail in the deepest shadows, the high lights become too intense, they show flat. Without gradation the plate refuses to record differences in intensities which are too great. Or presume the plate correctly timed for the highest light, when the shadow becomes too deep it is represented by clear glass. The range of intensities which is within these limits varies with different brands of plates. Some plates work too contrasty. Some work too flat, and some with fine gradation. The user should know his plate and the range of contrast it will cover and light his subject accordingly, so as to get detail in both high lights and shadows. The effect of correct exposure is to give truthful representation. Under exposure gives abnormal or violent contrast, over exposure gives too little contrast or flatness. Orthochromatic plates have a tendency to work a little too contrasty, though in the past two years great strides have been made in this respect and the standard orthochromatic plate today is not harsh in its working. The writer finds that the best results, especially when using a screen, are obtained from very full exposures. This is not because orthochromatic plates are slow. It is a fact not generally known that frequently they increase with age, so as to be from 20 to 30 per cent faster than their rating when in the hands of the consumer.

Since the sensitiveness of the orthochromatic plate to yellow light is much greater than that of the ordinary, it will at once become evident that a light which is safe in ordinary working might pass enough yellow and green light to seriously fog an orthochromatic plate. There is only one absolutely safe way, that of developing in total darkness. This is not practicable. If a light which did not pass any yellow light were made, this might be called a safe light, if we were understood to mean relatively safe. There is no light which will not fog an orthochromatic plate if enough of it is used. The experience of the writer has been that glasses passing only the extreme reds, cutting off the orange, yellow and green, are rather hard on the eyes. The illumination of such a light is harsh. If the light be dimmed down to the proper notch to avoid fog, it seems too feeble. For practical purposes a light should be diffused, soft and of such a nature that by its illumination the eye may distinguish easily the slightest contrasts. The best light for this purpose is a light which includes practically all light from A-D in the spectrum and very little if any other light. This is a light which is soft and pleasant and, in proportion to its power of rendering objects visible, the most safe that can be had. This light is found occasionally in dark ruby glass, but more often ruby glass passes more or less of the whole spectrum. A considerable amount of care is needed in using even a comparatively safe light. The light should be diffused. It should be taken as a rule that no light is safe in which the outline of the flame, or filament if incandescent electric light be used, can be seen. Diffuse the light through tissue paper, ground or opal glass. Use as little light as possible in handling plates before development. The writer has often worked plates extremely sensitive to the whole spectrum in the ordinary red light of the darkroom without any sign of fog. It was necessary, however, to use great care in handling. The plate was kept as nearly as possible parallel to the direction of the light rays until the developer was poured on. Care was taken that the light should strike the surface of the developer in the tray at such an angle that the greater percentage of it should be reflected. After the developer is poured on to an orthochromatic plate it becomes comparatively very much less sensitive to that light for which it has been specially sensitized. The greater part of the care must be taken before the plate is put in the developer. However, it must be born in mind that the plate cannot be cooked in a strong light. The safest plan is to develop by factor. By this method the plate need only be exposed to the light for a few seconds, the time of appearance noted, it may be put under cover and developed to time in total darkness. It must be pointed out here that development proceeds at a uniform rate, that the time taken for the appearance of the image is a fraction of the time taken to complete development. Therefore, the time of appearance multiplied by a factor which differs with different developers equals correct time of development. If we develop too short a time, we get weak negatives (lacking in contrast). If we develop too long a time, we get harsh, dense negatives (too great contrast). The problem for each worker is to strike upon the factor which, with his developer, gives him harmonious negatives.

To sum up, correct luminosity contrast when the subject is in colors can only be obtained by the use of an orthochromatic plate and the filter which is especially adjusted to that plate. This filter should not be used with any other plate, or the plate with any other filter. Try to avoid too harsh contrasts in lighting. Avoid plates which work with too much contrast. Avoid under exposure which accentuates contrasts. Do not use too much light in handling or development. Do not over develop.

A New Portrait Lens

The Cooke Portrait Lenses are a recent development of the famous Cooke anastigmats, and are designed for the highest class of studio work requiring extreme rapidity. They give definition at the margins of the plates equal to that at the center, and are quite free from that peculiar streakiness of marginal definition which is familiar to the professional photographer. They, therefore, do not need to be stopped down like ordinary lenses to improve their marginal definition, but only to secure what depth of focus may be needed. In this, however, they excel by the adjustability of the back glass, which enables the photographer to secure at will, uniform sharp definition, or to introduce any required softness of definition evenly throughout the plate.



To construct a modern anastigmat with an exceedingly large aperture involves expense, but the difference in cost between such a lens and one of the old-fashioned portrait lenses, is less than the difference in quality.

Catalogs and further information will be furnished cheerfully by Messrs. Taylor, Taylor & Hobson, Limited, St. James building, New York.

Preliminary Salon Announcement

The following preliminary announcement has been issued by the management of the Third San Francisco Photographic Salon:

The California Camera Club and the San Francisco Art Association announce that the Third San Francisco Photographic Salon will be held in October, 1903.

In order to encourage liberal contributions from pictorial photographers at home and abroad, and to save the expense of framing pictures that may not be accepted, as well as the greater expense of transportation, pictures suitably mounted or matted will be received from contributors in the United States, and such as are accepted by the Jury of Selection will be glazed by the Salon Executive Committee at the exhibitor's expense.

Foreign contributors may send their pictures either unmounted, mounted or matted as they desire, and the management will mount and glaze those accepted, and return the entire contribution to the owner after the exhibition, free of charge.

With the above-mentioned exceptions, the general rules which governed the Second San Francisco Photographic Salon will prevail, the details of which will be set forth in the regular announcement shortly to be issued.

It is hoped that this early notice will result in the selection of dates that will not conflict for the holding of other salons: in other words, that dates will be so chosen, as to allow sufficient time to intervene between the close of one salon and the beginning of the next, to enable contributors to send their pictures in turn to the various salons.



DAS DEUTCH HAUS, INDIANAPOLIS, WHERE THE CONVENTION OF 1903 MEETS

Why the Next Convention Should Come to California

By HIRAM G. VAUGHAN

In reading the report of the National Convention of last year with especial reference to the debate preceding the selection of a convention city for 1903 I cannot but believe that California will see the photographers of the country assembled in San Francisco in 1904. The only reasonable argument advanced against the selection of San Francisco last year was the question of time. Many of the photographers thought that the time consumed in a trip to California could ill be spared and the adherents of Indianapolis made as much out of this point as they could. Far-stretched eloquence and an unexplainable apathy on the part of those who were California's warmest supporters caused Indianapolis to win by the narrow margin of eight votes. Now far be it from my intention to cry over spilt milk, my only aim is to remove in part the sentiment expressed by some of the speakers at the last convention, with reference to the ill effects of the loss of time incident to a trip to California.

In the first place the convention meets at a time in the year when business is at its lowest ebb and an absence of two or three weeks from the studio will not even be perceptible upon the return. If there is one man in all of the professions that needs relaxation it is the photographer. He is without doubt subjected to more nerve-racking experiences in one month than the average lawyer or physician is in a year. He is compelled to be two kinds of a man at one and the same time. He must be a business man and an artist and at times the distinction has to be so closely drawn that there is but little room left for Jekyll and Hyde tactics. Once a year he hies

himself to the National Convention, held in a nearby Eastern city, spends three hurried days in cramming and is back again within the week. He has not had time to shake off the studio atmosphere and his daily grind comes back to him with renewed force.

Let us suppose that the convention decides to come to California. Immediately there begins to be a revolution in methods, a change in the procedure. Special trains will be started from Chicago bound for the convention city carrying photographers only. With systematic attention to detail, characteristic of those who manage conventions in the far west, every preliminary as to comfort and ease will be arranged far in advance, so that the photographer living in the East, Middle West or South will have nothing to do but care for his wife and step on the train in Chicago, New York or St. Louis.

When the wheels begin to roll toward the great plains the jaded and weary photographer will feel that he has burned the bridges behind him and that he is following the tracks of the forty-niners toward the land of the setting sun. Surrounded by congenial spirits, with all of the luxuries of the splendid overland trains and a consciousness of being in a new country, seeing strange sights, of being in an atmosphere of freedom with no constraint and nothing to do but enjoy himself for hour after hour, who will say that this man will regret the loss of three weeks of his time.

And when, after three days of flight through state after state that to him were only pale blue and green and buff patches on the map, the train pulls out over the long mole into the Bay of San Francisco and he boards the great ferry for the City of the Golden Gate, then will he feel he is indeed glad that he came. The welcome that awaits him is not to be measured by anything that has gone before. It will be of the fullness of California, the spirit that has made countless thousands who have journeyed to conventions on the shores of the Pacific exclaim: "What is there left to do?" The realization of long cherished dreams is one of the most satisfactory enjoyments granted to mortal man, and what member of the association has not harbored somewhere in his heart an ambition to see California, to cross the great plains and to gaze upon the boundless expanse of the Pacific. So here is the chance, the opportunity that will not come again in a lifetime. Do not let it pass by. Decide that the business can do without you for a few weeks and vote for California at Indianapolis this year.



IN BRITTANY
From the Kodak Portfolio

C. F. BAUDERS



FISHERMEN'S WHARF, SAN FRANCISCO

From a drawing by E. C. Peixotto

Reprinted by permission from Sunset Magazine for March

California's Summer Days

By CHARLES SEDGWICK AIKEN



CLAUS SPRECKELS
BUILDING
336 FEET HIGH

every kind of advantage for the holding of reunions or conventions. Surely California as a summer resort takes second place with no region on earth.

Conversation about climate is usually a sedative; figures tell best the truths of air and temperature, and later on the records of Government weather officials will speak for themselves. But consider a few virtues possessed by out-of-door California during the summer months. Here are a dozen of them:

- 1—You may have no fear of rain.
- 2—Nights are cool and blankets are comfortable.
- 3—Sunstroke and heat prostrations are unknown.
- 4—Flowers and fruits are everywhere.
- 5—Away from the coast the air is extremely dry, with absence of all humidity at night.
- 6—Pests of mosquitoes and gnats and the like are rarely found.
- 7—The air of the mountains and the pine forests is so invigorating that all cooks must be hired by season's contract lest abnormal appetites appal them.

When the photographers of the United States so nearly decided to meet in San Francisco this year one of the frequent arguments against the movement was the fact that California was a winter state and offered but little to the summer visitor. There is only one answer to that argument and that is, a through railroad ticket west. But do all seekers for comfort and health realize that California summers are idyllic? Here is opportunity for escaping from overpowering summer heat as surely as later the California trip means the dodging of icicles and snowballs. Here is the paradise of the camper, the photographer and the sportsman, for no rainstorms will come to upset outing calculations. Here is the most equable of climates, joined with chances to meet Nature at first hand in mountain canyons or big tree groves. Here are Sierra lakes so filled with trout that a cubic water ordinance ought to be enforced, and here is a big city that offers

JUNE 13, 1901.

WARMEST JUNE DAY P. R. A.
IN LAST TEN YEARS WAI

"S. Highest Point Reached by the Mar
Mercury Yesterday Giga
Was 92

MANY WERE PROSTRATED STEE

Great Discomfort Caused to Unfor- Colorad
tunate Citizens—No Large City Sensatic
Warmer Than Philadelphia.

	Degree
Philadelphia	92
Washington	92
New Orleans	90
Cincinnati	90
Detroit	90
Albany	90
New York	84
Boston	80
Atlantic City	72
San Francisco	70

The Great South of new summer weather
set upon this day yesterday, and
set the thermometer

THOUSANDS OF CLIPPING
FROM PHILADELPHIA
"NORTH AMERICAN"
JUNE 13, 1901



A BIT OF OLD JAPAN—TEA GARDEN IN GOLDEN GATE PARK, SAN FRANCISCO

8—There are stretches of sandy beaches where the surf of the Pacific meets the swimmer more than half way, and makes sea bathing a delight.

9—There are lakes and rivers and forests in the Sierra and the Coast Range where sportsmen may keep busy with rod and gun under happiest conditions.

10—There are hundreds of hotels and hospitable resorts dotting the state from mountain to seashore, nearly all with open-door greetings the entire year.

11—In San Francisco every summer there are reunions such as that of the Grand Army, the Knights Templar, Epworth League, Christian Endeavor, National Educational Association and the Episcopal Convention.

12—The University of California at Berkeley, near San Francisco, is one of the big universities of the world. It holds a summer school that attracts many students. At Pacific Grove the Stanford University maintains the Hopkins Seaside Laboratory, where the wonders of marine life may be studied. Here, too, is held the annual assembly of the California Chautauquans.

And what of the summer heat? Take the following from the official report of the United States Weather Bureau, published recently:

"If a native of San Francisco were asked which was the coldest month of the year, he might be unable to answer, and if asked which was the warmest he might say November. This confusion arises from the comparatively small range of temperature. The mean annual temperature, as determined from the records of the Weather Bureau for twenty-eight years, is 56.2°. May and November have practically the same temperature. The warmest month is September, 60.9°; the coldest January, 50.1°; the other months have mean temperatures as follows: February, 52°; March, 54°; April, 55°; May, 57°; June, 59°; August, 59°; October, 60°; November, 56°; December, 52°."

Of course, California was created to be one of the world's resorts summer or winter. Come in 1904 and see why.



A SUMMER'S DAY AT THE CLIFF HOUSE, SAN FRANCISCO

The Making of High-Grade Lenses

How the Modern Anastigmats are Turned Out at the Bausch & Lomb
Factory

By L. B. ELLIOTT

In the early days of Photography the making of a photographic lens was a simple matter compared with the making of a modern anastigmatic objective. In fact, the optical requirements at that time were so simple that one of the most practical opticians of whom I have ever known refused point blank to entertain a proposition which was made to him, on the ground that the work was too easy for an expert optician to consume his time with. The modern advancement in photographic work, and the exacting requirements of the modern photographer, have changed the problem to such an extent that the best optical talent of the world is none too good to solve the intricate problems presented.

The first marked advance in the construction of photographic objectives was due to the investigations of Dr. Abbe, who had previously been engaged in the delicate work of perfecting the defining power of high-power microscope objectives, and whose researches in that direction gave him the incentive to apply some of the principles discovered, in the improvement of the defects of existing types of photographic lenses. In order to accomplish results aimed at, however, it was found that the optical glasses then at the command of opticians were not suited to give the results desired, and it therefore became necessary to construct a new series of optical glass, embodying different ratios of dispersion for different portions of the spectrum, and with varying refractive powers. The results of the investigations thus set on foot are the now famous Jena glasses, without which the high-grade anastigmat lenses of the present day are an impossibility. While these glasses are a vast improvement in many respects, they have one slight disadvantage, which is so apparent to the user of a lens, that it is well to speak of it here, since it is unavoidable in compounding the optical glasses. The various ingredients are weighed with the utmost precision, the mass thoroughly mixed, placed in the melting pot, and brought to a given temperature, which temperature is maintained for a definite period, the various factors entering into the optical properties of the completed glass. It, therefore, sometimes happens that it is not possible to keep the glass in a fluid condition long enough to permit the escape of all bubbles of air, which are incorporated in the material, and they therefore appear conspicuously in the lenses made from some of the very choicest of the Jena glasses.

The glass is cast into slabs from the melting pots, and two opposite ends are ground and polished to enable the inspection of the slab. Portions of unequal density, or containing other imperfections, are then gouged out, and the remainder of the slab placed in a porcelain tray where it is brought to the point of viscosity in the annealing oven, and kept at this temperature until it flows down evenly into the dish, and is then gradually brought to normal temperature, thus annealing it.

This is the material with which the optician begins the construction of the lens. The first operation is to saw the block of glass into strips of suitable thicknesses for the various lenses. The strips are cut into squares and cemented on ends of wooden handles, which resemble in shape the handle of an ordinary vegetable knife, very

much. The squares of glass are then ground approximately to shape on a revolving metal tool, having the same curvature as the finished lens is to have. After the lenses have been thus roughly shaped they are ground to exactly the proper curve with finer grades of grinding material until they have been brought to the proper fineness for polishing. The polishing is accomplished by holding the finely ground glass against a revolving disk, having exactly the curvature required for the finished surface. The polishing is accomplished by means of polishing rouge, which removes all the fine pit marks caused by the abrasive used in grinding the lens to shape. This is the most important process in the manufacture of the lens, as upon the perfection of the work here, and the care and conscientiousness with which it is carried out, depends the brilliancy of the image which the finished lens will give, as well as its accuracy and sharpness. During the process of grinding the lens is constantly tested until it arrives at the proper curvature by means of metal gauges, but when the polished lens is to be tested, an entirely different mode of procedure is adopted.

The test for a perfect polished surface, while very simple in its application, detects an error of two-millionths of an inch as easily as the engineer tells the difference between an open and closed switch by the red or green light placed before him. The test glass is simply a hard piece of glass in which an absolutely accurate curve is ground. This curved surface is applied to the surface of the lens to be tested. If the lens has a perfect surface the test glass shows a uniform color over the whole surface of the lens. If, however, there are imperfections in the curvature, these imperfections make themselves manifest by the appearance of Newton's rings of iridescent colors about the elevations or depressions, if they are more than two-millionths of an inch in height. There are very few lens makers indeed whose methods are sufficiently accurate to permit the use of this testing method, but to produce a really good high-grade objective the old methods of testing by curved gauges are entirely inadequate.

The lenses having been ground and polished perfectly true, are centered. Centering the lens means making the optical center coincide with the geometrical center. This is accomplished by cementing the lens on the end of a horizontal revolving spindle, and watching the reflection of a bright light or illuminated window in the lens surface. When the image stands perfectly still while the spindle is revolving, the lens is centered, and if the image vibrates the lens is moved about until its optical axis coincides with the axis of rotation. When this has been accomplished the workman with a special tool cuts down the lens to the proper diameter which it is to have when mounted in the lens mounting.

A carefully made lens is then ground finely on the edges, so that when lacquered black in subsequent process, no internal reflections will mar the perfection of the image. The individual lenses thus centered are cemented together, two, three, four or five of them, as the case may be, so as to form a lens system. Cementing is accomplished by covering the surfaces, which are to come together, with a transparent, resinous cement, the lenses being worked together until the thinnest possible film only separates them. The cemented system is then tested to make sure that all its elements are in center, and that no strains exist between its exponent parts.

In this connection it is of interest to note that a great many defects, such as striæ in the glass, strains caused by unequal pressure, or for other reasons, in cementing, slight decentering, imperfect polishing, cross circulars and other striations due to imperfect polishing methods, may exist in a lens and be totally invisible to the

naked eye, only brought to light through a lack of one kind or another in the image given by the lens. Even these imperfections may not be brought strongly to light except when doing critical work. It is therefore necessary for the lens buyer to rely absolutely upon the good faith and reputation for honest work of the lens maker.

The completed lens systems are to be mounted in a suitable mounting, in order that they may be used as a photographic objective. The object of the mounting is twofold; to keep the lens systems at a proper distance from each other, with their optical axes in coincidence, and to provide a convenient means for placing the lens upon the camera and controlling its aperture. The making of the mount is just as important and has to be made just as accurately as the lenses themselves.

Mounting for a high-grade lens, therefore, usually consists of an accurately turned cell to contain each system, and the retaining ring, which must also be made with equal accuracy, is screwed down upon it, and retains the system accurately centered in the cell. The cells are then centered to the lens tube, and have the shoulder which rests against the tube itself arranged so as to keep the lenses the proper distance apart. Between the lens systems is fitted a shutter, preferably of the iris diaphragm type, which opens and closes at the diaphragm point of the lens, or the point where the rays of light from the front system cross on their way to the rear system. At this point the shutter may open and close without changing the focus of the lens, or without distorting its image. The exterior of the lens mounting is protected with a number of coats of lacquer, which not only add to its durability, but greatly to its beauty if properly done.

In thus briefly outlining the construction of the Plastigmat, the highest grade of photographic objectives, we have touched the most important parts only, and it is impossible within the limits of so brief a description to give more than a casual account of the constant care, testing, retesting and measurement required in order to produce the modern instrument.



TIRED OUT
From the Kodak Portfolio

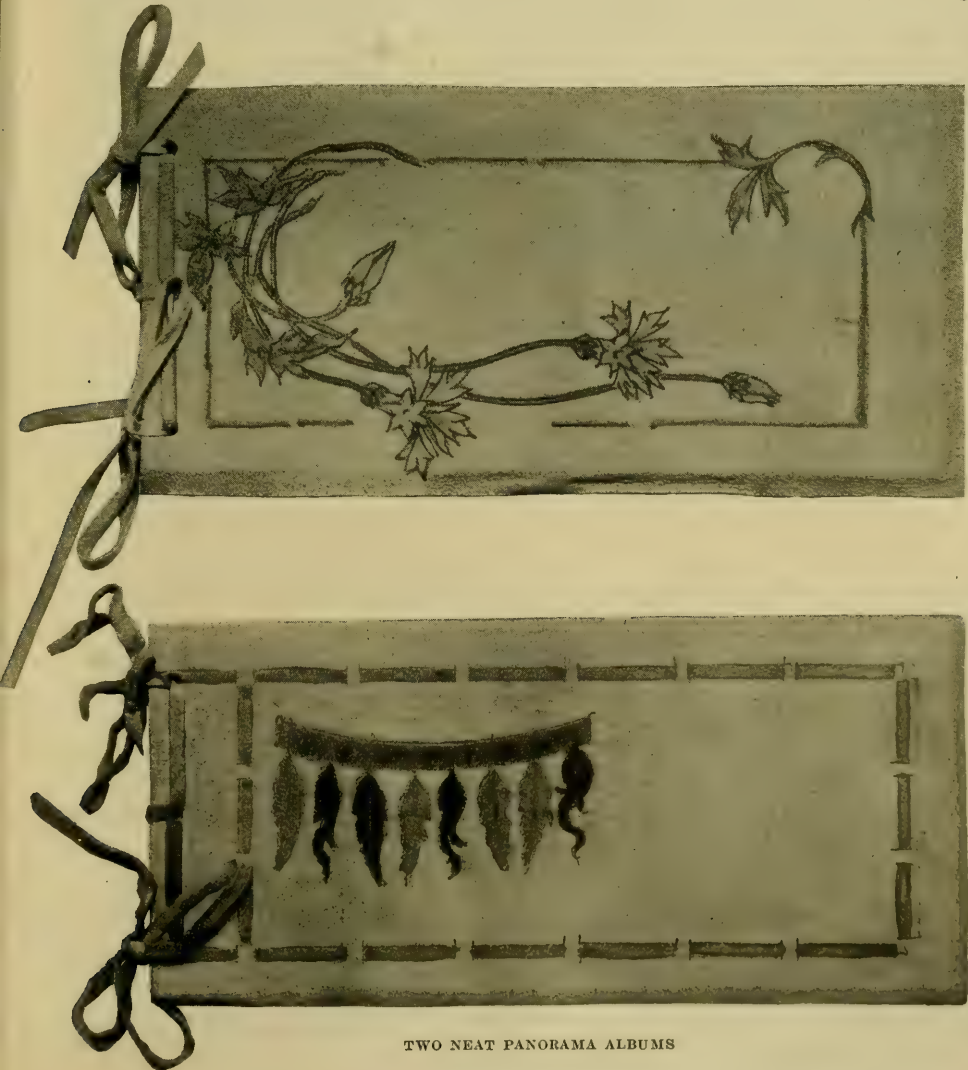
COLONEL HORACE M. SEAMAN

Some Exquisite Album Designs

Novelties in Burnt Leather

After the plate is exposed and the print made, there remains one pleasure for the enthusiast. The print is either to be mounted on cardboard or pasted in an album, depending upon the destination of the picture. The exhibition pictures, of course, require mounting and so do the individual prints for friends, but for the man who made the pictures there is but one comfortable course left to pursue. His prints, to become of immediate value to him, must be gathered in convenient form and so arranged that they can be immediately referred to and yet be surrounded by harmonious mattings and tasty covers.

The accompanying pictures portray some of the new burnt leather albums just placed on the market by the Heinn Company of Milwaukee. The illustrations give but little idea of the real appearance of the covers, for no mind can realize the soft colorings and exquisite drawing presented by the originals, from the black and white of the engravings. Many other designs are produced by this company, among them



TWO NEAT PANORAMA ALBUMS



VIRGINIA CREEPERS—SOFT, HARMONIOUS COLORS ON VELVET-OOZE LEATHER, A NEW CREATION

being a series of four especially prepared for the California trade, poinsettias, oranges, poppies and missions entering into their composition.

Mr. Adolphe J. Heinn, president of the company, who recently visited the Pacific Coast in the interests of another prominent line of goods manufactured by his company, said that extensive improvements were being made in the plant of the Heinn Company to accommodate the increasing business. The company has been reorganized with increased capital and the name changed from the Heinn Specialty Company to the Heinn Company. This move was made necessary by the great popularity of the loose-leaf ledgers and other mercantile books manufactured by the Heinn Company. One of the most important features of this line is the loose-leaf catalog covers designed and invented during the past year. The loose-leaf system of cataloging has been adopted by all of the largest manufacturing and jobbing houses in the hardware, iron and steel industries in this country. Signed contracts for an amount exceeding \$100,000 have been entered into during the first ninety days of the present year. The Heinn devices combine both simplicity of action and an attractiveness not shown by any other similar system.

The famous Badger & Morehouse albums, so familiar to the photographic trade, are too well known to need mention, but as these goods are the standard as far as quality goes, this number of CAMERA CRAFT is incomplete without mentioning them. Thousands have been sold all over the United States, but Mr. Heinn, in discussing the subject, said that California stands well to the front in the consumption.

A handsome catalog containing full descriptions and prices of all the albums made by the Heinn Company will shortly be issued and, as it will be sent free to all who request it, no amateur need be without a copy.

The Polychromatic Plate

A lecture by Mr. JOHN CARBUTT

At the meeting of the Photographic Society of Philadelphia, held February 11th, Mr. John Carbutt, of the Carbutt Film and Dry Plate Company, delivered a lecture on the "Polychromatic Plate," which attracted much attention. He said in part:

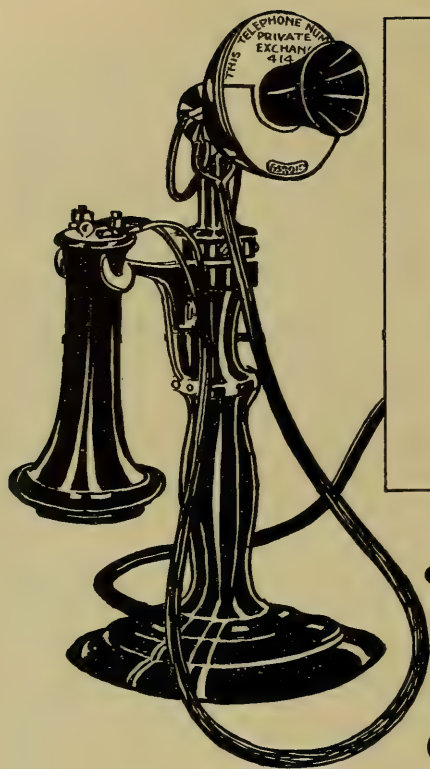
Dr. Herman Vogel, in 1873, found that by the addition of certain yellow and red dyes to collodion a better rendering of the greens and yellows was obtained. Captain Waterhouse experimented on the same lines. In 1878-79 Mr. F. E. Ives improved on the Vogel and Waterhouse methods by the use of chlorophyll as a sensitizer. The late M. Carey Lea also made extensive experiments with certain chemical salts to produce color values. The color sensitive collodion, however, did not come into practical use by photographers; but on the advent of the more sensitive gelatine process, orthochromatic plates became a commercial article. In 1883 Taillfer and Clayton, of Paris, brought out a dry-plate color sensitized with eosine, and the same was introduced, commercially, in London by J. B. Edwards in 1884, under the name of isochromatic. Upon learning of this through the British photographic journals, I took up the study of the subject, and in 1886 commenced the manufacture of orthochromatic plates. Some two years since I commenced experimenting to produce a color sensitive plate that would be capable of taking all colors of the spectrum, from blue to red, with a view of their being used not only by professional and amateur photographers in advanced lines of work, but especially for use by printers and publishers, reproducing works of art by the trichromatic printing process.

Mr. Carbutt then demonstrated on the screen the results obtained by the use of ordinary plates, orthochromatic plates and the remarkable polychromatic plate, sensitive to all colors of the spectrum.

Negatives made with the Chapman-Jones plate tester, consisting of slow and rapid plate, ortho plate with and without light filter, transparencies from ortho films and plates, transparencies from polychromatic plate without light filter, negatives on polychromatic plates with and without light filters, showing their use in producing the three-color value negatives for trichromatic printing, together with the Chapman-Jones plate tester, and finally two sun spectro negatives, one a single exposure and the other with three separate ratio exposures through the polychromatic light filters, showing the blending together of spectro colors, giving the Clerk-Maxwell color curve, were shown on the screen, the great superiority of the polychromatic plate being demonstrated with extreme clearness.

Mr. Carbutt has made great progress in the field of color work and we advise all of our readers who are interested in this class of work to write Mr. Carbutt, for the correspondence will be of the utmost educational value.

The celluloid flat-cut films in both the eclipse and orthochromatic emulsions made by Mr. Carbutt's company, together with the aluminum film sheaths that can be used in any of the modern plate holders, are growing more popular than ever with the traveling amateur, the extreme lightness and convenience of the cut films being an advantage not easily overlooked when any considerable number are to be transported. A table showing the relative weight of films and plates has recently been issued by the Carbutt Company, from which we learn that twelve 4 x 5 cut films in sheaths weigh seven and one-half ounces, while twelve glass plates weigh nineteen and one-half ounces. The comparison is decidedly uncomplimentary to plates.



A Combination of Conveniences

Somewhat analogous to the pooling of interests, which is so important a factor in eliminating the waste of business competition, is the combination of conveniences and harmonization of allied crafts that has been effected for the first time by the Sunset Photo Engraving Company, the Sunset Press and the Sunset Advertising Agency.

These three plants, under one ownership and management, occupy the entire Sunset building, 106-108 Union Square avenue, San Francisco.

Every detail contributing to the judicious use of printer's ink is handled by experts, under the roof of this building. For example, the copy penciled by Sunset writers for booklet, magazine or newspaper advertising is illustrated by Sunset artists. These illustrations are photographed and engraved by Sunset photographers and engravers and later printed by the Sunset Press.

Each of these plants occupies the unique position of doing the highest class of work that can be produced in its field. "The proof of the pudding," saith the proverb, "is in the eating," and in cover designs and posters, effective advertising pages, artistic etching and superb color and half-tone work of pressmen working in conjunction with artists, one may see in *CAMERA CRAFT* or *Sunset Magazine* ample justification for the enviable reputation borne by the Sunset Photo Engraving Company.

The photo-engraving department is the cornerstone of the business. It was incorporated in 1895 in response to a need for the class of engraving necessary to the production, in the West, of the finest magazine and catalog work. Immediately upon starting up with the best engraving and photographic equipment then obtainable anywhere, it received the cream of the engraving business, which had theretofore sought the Eastern market.

This is the method of treating plates which made and kept the Sunset Photo Engraving Company one of the greatest exponents of the master craft: At first, of course, the photographs are taken by men who thoroughly understand the importance of furnishing the engraver with good "copy." Satisfactory negatives being furnished, the print is transferred to metal and a flat proof is taken. After this point the operator must be not only a mechanic but an artist. The flat proof referred to above is considered by the Sunset to be merely a guide to the real engraving, which consists of giving the plate sometimes as many as four separate etchings to obtain the values of the original.

The demand for work such as Sunset accomplished from the first, was far beyond the most sanguine expectations of the firm. But the difficulty of securing printed results commensurate with the quality of the cuts was a source of continual disappointment until the incorporation in 1899 of the Sunset Press.

This printing institution was founded primarily for the purpose of satisfactorily reproducing the work of the Sunset Photo Engraving Company. Naturally, it was equipped with the idea of specializing

upon the highest class of work and naturally enough orders for fine execution came in very rapidly. In fact, the superb editions of *CAMERA CRAFT* and *Sunset Magazine*, unique posters and artistic brochures produced by the Sunset Press, were the best advertising that could possibly have been given that department.

The type of work produced was such that large firms all over the West began to

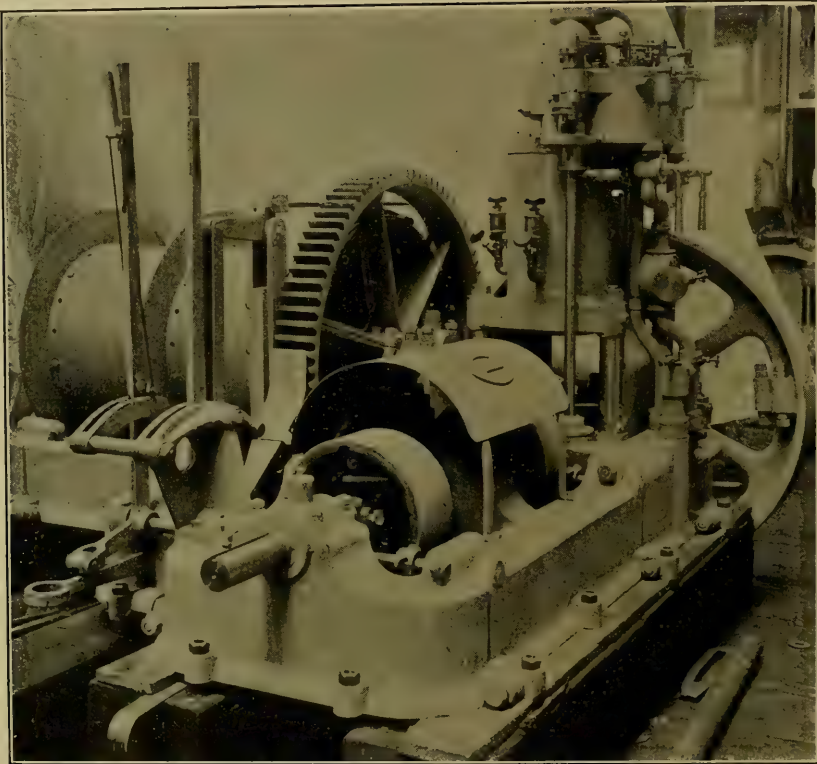


The SUNSET BUILDING

Plain brass rule border, executed by the typographical department of Sunset Press

look to the Sunset plants for the creation of advertising ideas. To fill this demand satisfactorily it was deemed advisable to establish the Sunset Advertising Agency. This agency started in the early part of 1902 under the management of a well-known advertising campaigner and agency man. A corps of artists, including magazine illustrators of wide reputation, was collected and an agency system complete in every detail was installed. From the beginning the achievements of this department attracted wide attention and the best advertising business in the West.

The agency completes a combination of conveniences that has probably no parallel anywhere. The advantages that these facilities offer a customer requiring



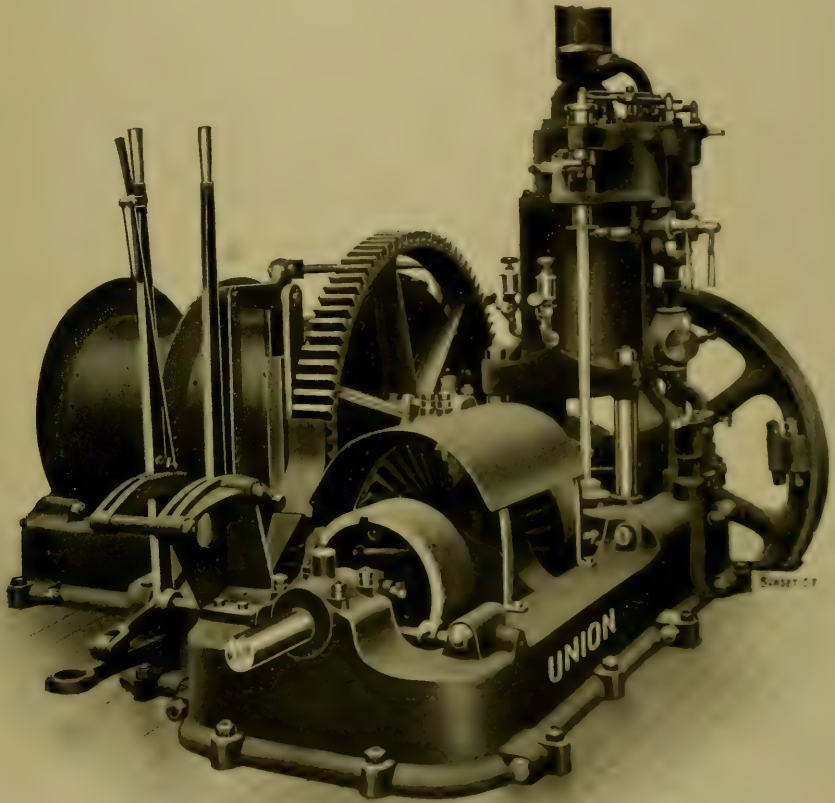
STRAIGHT REPRODUCTION FROM A PHOTOGRAPH OF A UNION GAS ENGINE

high-class work, may be illustrated by following through the Sunset plants a large order from a transportation company. A corporation desiring to present a certain proposition before the country at large sends all the data in its possession to the Sunset Advertising Agency with instructions to prepare a campaign. A writer of the agency, together with artists and photographers, will, if necessary, travel through the territory to be advertised, gaining fresh impressions and additional data. Booklets are then written up and illustrations and posters made in colors. As soon as these illustrations are done they are sent from one floor of the Sunset building to another where they are reproduced in plates. The artists who make the Sunset drawings always manipulate their own plates so that the original values will be preserved. When the plates are finished they are sent down to a lower floor where the type will be waiting for them. When the forms are made ready the color work begins, with

the co-operation of the artist who created the color scheme. Thus, the printed matter is conceived and completed with the least possible consumption of time and without the smallest conflict of ideas.

It will be opportune at this point to bring the proposition to the general public. Following a carefully planned idea, the advertising department will prepare copy and designs and insert advertisements in the large Eastern and Western magazines and newspapers.

One of the three great factors in business today is the correct making and plac-



ENGRAVING FROM THE SAME PHOTOGRAPH AFTER IT HAS PASSED THROUGH SEVERAL OF THE SUNSET DEPARTMENTS

ing of advertising, and to perform every detail in the vast system perfectly would require a separate department and much additional help in any business. That is why some of the leading advertisers on the Pacific Coast have turned over their entire advertising fund to Sunset to be used as the experts see fit.

The customer simply gives the original order and the rest is executed in every detail by the Sunset Photo Engraving Company, the Sunset Press and the Sunset Advertising Agency, which compose the most effective combination of conveniences yet devised among the crafts.

CAMERA CRAFT

ISSUED MONTHLY BY

THE CAMERA CRAFT PUBLISHING COMPANY

114 GEARY STREET, SAN FRANCISCO

Edited by CARL E. ACKERMAN

VOL. VI

SAN FRANCISCO, CALIFORNIA, APRIL, 1903

No. 6

In this number we have endeavored to comment upon every new and important move on the part of the manufacturers, and although much care has been exercised to the end that no one be overlooked, a number of interesting matters have been omitted because of the late arrival of matter or illustrations. These articles, however, will be commented upon from time to time in the pages of the regular issues.

A Word to the New Reader

This number of CAMERA CRAFT will reach many hundreds of photographers and others engaged in photographic work who are unfamiliar with the character of the magazine. While we believe that this number will speak for itself as to the character of the engravings and general makeup of the magazine, we feel that some words of explanation are needed to make clear the objects of this issue. While it is true that the principal object of CAMERA CRAFT is to build up and encourage the artistic tendencies in Photography, we believe that matters relative to new and important apparatus and the manufacture thereof is of great interest to the mass of photographic readers. We have therefore gathered as much information as was possible relative to the new cameras and other apparatus, together with some information as to the making and the makers thereof. This matter is incorporated in the present issue.

As the contents of the Industrial Number are somewhat different from those of the regular magazine, we append a brief list of the notable articles and illustrations to be contained in the May number:

"The Cruise of the Monongahela," written and illustrated by Enrique Muller, official photographer of the United States Navy; "How to Build a Studio for \$300," illustrated with detail plans and photographs; "Use of the Diaphragm in Pictorial Photography," by B. F. Loomis; "A Series of Flower Pictures," by Miss Belle Johnson; five portraits of children, by Miss Adelaide Hanscom, in an entirely new and different vein; "Through Chinatown With a Brownie," written and illustrated by Hugo Goldsmith, and many other original pictures and articles to be found in no other publication.

Thus it will be seen that the contents of the magazine are varied and that the field covered by CAMERA CRAFT is limited only by the boundaries of Photography as a whole.

A Moving Epistle

The Second Vice-President of the Photographers' Association of America who lives in West Virginia sends this choice selection of Southern English to the editor of CAMERA CRAFT and asks that it be published for the benefit of the benighted sons of the lens who have never tasted the joys of the National Convention.

We publish the letter with pleasure and have nothing but compliments for its author:

"It is an established fact that every movement having for its object the elevation and betterment of the people, either as a class or in general, is conceived, organized and fostered by a few enthusiastic individuals whose enthusiasm is born of an intense realization of present needs.

"In every instance these individuals are the thinking people, and I would urgently ask those members of the photographic fraternity who do not recognize in the conventions of the Photographic Association of America a need to the craft as a means of giving to its members all incalculable assistance otherwise unobtainable, to stop with me for a moment and *think*.

"Art, science, literature and, in fact, all mental achievements are evolutionary, each generation adding to the structures builded by its predecessors. Were this not true, were each individual student compelled to start at the beginning and wrestle alone with first principles, the end of a long life's work would find but little progress made.

"This, my fellow craftsmen, is, to a limited degree, your situation, for no one man is capable of evolving within a lifetime a fractional part of the remarkable phases of pictorial Photography that will be shown in the superb exhibit of work at our next convention, which, with the presentation of important, pertinent subjects by able and entertaining authorities, and a brilliant interchange of ideas on the part of wide-awake, ambitious students of the art, would give you food for thought, a fund of information and a surcharge of enthusiasm that would last you through the year, the effect of which on your business could not be else than most salutary, for were you to show me a man interested in his business to the point of real enthusiasm it would almost certainly be one who was making it a financial success, for enthusiasm and success usually go together.

"I have made no mention of the entertainment side of the trip, aside from the pleasures of the convention proper. I would briefly add that this feature of the affair will be in the hands of those who are princes at entertaining, and you will have an abundant chance to enjoy keenly every moment of the time.

"I, therefore, appeal to you in the name of the craft to come to our aid, and help us in our commendable efforts to elevate the photographic art of America, and to better the condition of the photographic fraternity, promising you that by thus helping us none would be more greatly helped than yourself.

"Yours for fun and other things,

"J. E. GIFFIN."

A Photographic Digest

By H. D'ARCY POWER, M. D.

Pinhole Photography

The *Photo Era* for February has an article on this subject from the pen of Mr. McCorkle in which that gentleman makes various statements that will not bear practical investigation. For example, commenting on the question of the size of pinhole best adapted for general work he states that a No. 10 needle hole is better for general use than No. 11, as it requires a shorter exposure and "that any increase in sharpness of No. 11 over No. 10 would be almost, if not quite, imperceptible." As smallness of aperture (short of extreme size) is proportionate both to length of exposure as well as to sharpness of image, it necessarily follows that the extra length of exposure with No. 11 should be equally "almost imperceptible," which Mr. McCorkle admits is not the case. Practically the improvement in definition of No. 11 over No. 10 is quite marked as any one may ascertain for himself by photographing an object showing detail with both.

Again, Mr. McCorkle states "it is perfectly feasible to cover a 6 x 8 plate at 3-inch focal length, but not desirable." That depends upon circumstances. I recently took a pinhole photograph on a 11 x 14 plate at 3 inches from plate and it was very desirable, for it was the only way in which I could obtain a picture of a very wide auditorium—the angle being greater than a wide-angle lens would cover. That picture is now in use as a book illustration.

Mr. McCorkle questions Mr. Yellot's statement that a cloud picture can be taken with a pinhole in one-third of a second, saying "with a No. 8 needle hole and 4-inch focal length, four seconds is my best time." I have in my possession a print with good definition of the surrounding country, houses and chimney smoke, made with a No. 10 needle at 4 inches in the time required to rapidly shift my finger off and on to the pinhole, certainly less than a third of a second, probably nearer to an eighth. The clouds were over exposed. The calculated time, using No. 10 (my No. 3) needle hole with a Cramer Crown plate at 4 inches, on a bright day (paper on Wynne

meter darkening in 15 seconds), would be one-eleventh of a second and that is confirmed by my experience.

The Fading of Prints

The above subject has been carefully investigated by Messrs. Lumiere and Seyewitz, who have published a full account in the *Bulletin de Soc. From. Phot.* Their final conclusions may be summarized as follows:

First—That the principal cause of fading of chlorocitrate of silver prints is the presence of hyposulphite of soda incompletely eliminated, but the fading of the image only takes place in the presence of moisture.

Second—Fading takes place in gold-toned images containing hyposulphite of soda, even if the toning occur in a neuter medium, as in the case where toning and fixing are separate operations.

Third—The absence of all trace of hyposulphite of soda in the print is a guarantee of its keeping in humid air even if the image does not contain gold, and if it be constituted by either sulphide of silver, silver only or silver and lead.

The yellowish appearance of faded prints does not, therefore, appear to be due to the presence of sulphide of silver or lead, but, perhaps, to that of very finely divided sulphur resulting from the slow decomposition of the soda hyposulphite.

The supposed drawbacks of combined toning and fixing solutions do not, therefore, appear to them to be well founded.

Our experiments have, in fact, shown that prints toned and fixed separately fade just as readily as those toned and fixed at a single operation if they have been incompletely washed and exposed to damp air. The way to avoid fading of toned prints is, therefore, to completely eliminate the hyposulphite of soda.

Notes Upon Platinum Toning Baths

In a special article to *Photography* Professor R. Namias writes as follows:

"One is nearly always advised when toning with platinum to use potassium chloroplatinite and phosphoric acid. Why is this acid to be preferred, one might inquire? I have

never had a satisfactory answer to this question. In fact, phosphoric acid would seem to have no advantage over many others, while, on the contrary, it presents certain drawbacks. Such a bath with certain kinds of printing-out paper gives yellow patches. Moreover, the bath soon becomes useless and manifests a yellow "precipitate" in suspension, which it may be is platinic phosphate. It is this yellow deposit, which nothing will prevent, which appears to bring about the yellow staining of the prints here and there to which I have referred.

"Phosphoric acid has no chemical reducing agent and in consequence it cannot in any way facilitate the deposition of the platinum. On the other hand, an acid which would have a tendency to combine with the chlorine ought to facilitate the decomposition of platinic chloride, where this is in contact with the silver that forms the image. Now several organic acids, particularly oxalic acid, answer to this requirement; and it is for this reason that I have advocated for several years the use of oxalic acid in platinum toning baths.

"Latterly a series of comparative trials have been made by me, with matt surface printing-out papers, both collodion and gelatine. In these the effect of double toning with gold and platinum was studied, by employing, after a partial toning in a gold bath, sometimes a bath of platinum made up with phosphoric acid, and sometimes one made up with oxalic acid, prepared in the following way:

Potassium chloroplatinite 15 grains
Distilled water 30 ounces
Pure hydrochloric acid 75 minims
Crystallized oxalic acid 150 grains

"Now in every case this bath shows itself to be more active than one made up with phosphoric acid. Toning is effected more rapidly, the color is better and one never gets any yellow markings.

"The makers of matt surface papers, I think, would be well advised to recommend the use of a bath of this type with their papers, modified, of course, should it be found necessary, to suit the particular characteristics of their brand; but at any rate, even if they do not, they ought at least to leave off recommending baths containing phosphoric acid, which are so unsatisfactory. Some have already realized this and have put forward formulæ which have no phosphoric acid, but merely the salt of platinum with common salt or some other chloride. These baths do not act badly, but it ought to be pointed out that the

action of the platinum salt upon the silver takes place sooner and better if the liquid is acid."

A New Substitute for the Alkalies in Development

It is now a considerable time since acetone gained a permanent place for itself as a substitute for the alkalies, but acetone has many disadvantages. It is excessively volatile and its odor is more than unpleasant. I used it for a while and then discarded it for these reasons. In the January number of the *Bulletin* of the Belgian Photographic Society Messrs. Lumiere and Seyewitz describe a new accelerator that is free from these defects; they find that paraformaldehyde (which is an article of commerce, sold by the manufacturers of formaline) is soluble in sodium sulphite. The best results being obtained by a mixture of three parts of paraformaldehyde in 100 of sodium sulphite. This mixture they call formosulphite, and it is to be placed on the market. The advantage claimed for it is that it combines in one salt the preserver and accelerator, that it is about ten times as powerful as the alkaline carbonates and that furthermore it hardens the film of the negative much as formaline does. The following are some of the formulæ given by the authors for its use:

PYROGALLIC ACID

Pyro	1 part
Formosulphite	9 parts
Water	100 parts

HYDROQUINONE

Hydroquinone	1 part
Formosulphite	9 parts
Water	100 parts

METOL HYDROQUINONE

Metol	0.5 parts
Hydroquinone	1 part
Formosulphite	8 parts
Water	100 parts

METOL

Metol	1 part
Formosulphite	9 parts
Water	100 parts

PARA-AMIDOPHENOL

Para amidophenol	1 part
Formosulphite	14 parts
Water	100 parts

PYROCATECHIN

Pyrocatechin	1 part
Formosulphite	14 parts
Water	100 parts

Finally the authors advise its use in the fixing bath as a substitute for alum, on the ground that being alkaline it eliminates all possibility of decomposition of the residual

hypo with precipitation of sulphur. This use of formosulphite is, however, confined to papers, as its toning action is so severe as to cause the gelatine film to leave the glass by contraction.

Enlarging Films

A recent inquiry addressed to *Photography* asked for information as to whether it was possible to obtain a film that could be expanded to double its normal size. The following reply may interest others:

"SIR—May we venture to give you the result of our experience with the enlargement of gelatine film, with the hope that it may be of use to Mr. J. D. Cooper, whose letter was published in last week's issue of *Photography*.

"The Cristoid film, as your correspondent doubtless knows, is a gelatine film, and we find that an acid bath of hydrochloric acid and water has the effect of enlarging the film to any extent between 25 per cent and 100 per cent.

"The method of procedure is as follows: For small enlargements, say 33 1-3 per cent, take a solution of strong hydrochloric acid in water of about one in ten, and immerse the film in it for about five minutes, then remove and immerse the film in water for about twenty minutes; this will enlarge to about 33 1-3 per cent, and by strengthening the bath any different size of enlargement can be made. If equal parts of acid and water be used, an enlargement from a half to a whole plate may be obtained:

"It must be remembered, of course, that such an enlargement as this involves considerable loss of density, but the Cristoid film can be fully exposed and developed until the negative is quite opaque by transmitted light, which on enlargement will then give a good picture.

"If the film should get too soft it would be advisable to put a little formalin into the water in which it is soaking. Yours, etc.,

"SANDELL FILMS AND PLATES, LTD."

Demachy on Gum Printing

M. Demachy's second article in the *Photogram* of London, on "The Gum Process," is a valuable exposition to the beginner of the minuta of development, but, unlike the first article, it is devoid of absolute novelty or change in the master's methods. It is pointed out that a gum print may be developed in three different ways:

First—By letting the print float face downward in cold or tepid water.

Second—By pouring water higher or lower in temperature over the surface of the print placed face upward on a sheet of glass.

Third—By friction with a brush or sponge.

It will be recollected that the manner of sensitizing the tissue for the last method is not that employed for the others, moreover the second requires deeper printing than the first. Nevertheless, M. Demachy says that it is often necessary to combine these methods, but he here makes the very pertinent observation that if this be done the manner of doing it must be such as to impart a unity to the whole. The texture of a water as compared with a brush-developed print is quite different. I cannot do better than quote him on this point. He says: "For example, let us imagine a daring brush-developed background against which is silhouetted a smooth water developed figure. The result will be quite disconcerting unless the drapery is simplified in the same manner as the background has been manipulated, but the face and hands being of a totally different texture to the rest may, with advantage, be allowed to remain as they are. In other words, unity or apparent unity of technique is an absolute necessity."

Next month the author will deal with the method of brush development. Gum workers would do well to get the *Photogram* and study these articles in their entirety.

Deficiencies of Plates

A little while back I noted a communication of Sir W. Abney on the deficiencies of even our best plates; the subject is again dealt with by the well-known photographer, F. H. Evans, in a letter to *Photography* in which he points out that one of the chief defects is in the limited range of gradation when dealing with near-by subjects under strong illumination, accompanied by deep shadows. For example, the effect of sunlight on the columns of a cathedral and the accompanying shadows, wherein both high lights and shadows are rich in beautiful detail. These cases are not met by local development or other manipulation. A longer scale of gradation is needed. In Mr. Evans' experience the best results so far attained are not yielded by plates or celluloid films, but by the so-called aristoid film (described in *CAMERA CRAFT* some months ago) which consists of a double coat of gelatine emulsion without any support. I have experimented with this film and my limited experience is confirmatory of this opinion.

The Amateur and His Troubles

By FAYETTE J. CLUTE

Toning Albumen Prints

One of my Chicago correspondents wrote me some time ago that he had fallen heir to a lot of old-time negatives that he desired to print on a smooth-surface paper with a warm tone. The negatives were a little too strong for the modern printing-out papers. What would I suggest? All I could do was to write and ask him why he did not use albumen paper, as that was the kind the negatives were no doubt originally intended for? And, by the way, why do not a few more of the amateurs vary their output by using this most excellent paper? They will find it gives better prints from certain grades of negatives than they can obtain on the papers now so commonly employed. A second letter came from the same correspondent today. He has been trying various acetate and sulphocyanide baths and obtaining only a muddy yellow tone. It is evident that he is trying to employ baths intended for gelatine papers. If he will dissolve 20 grains of sodium phosphate in two ounces of water, then add one grain of gold chloride from the stock gold solution, and after five minutes, make up to eight ounces by adding water, he will have a bath that will tone from twelve to sixteen cabinet prints or an equal amount of surface. The bath does not keep and therefore should be prepared fresh and used at once.

The Sulphocyanide Bath

An Illinois correspondent complains that the precipitate seems unduly large in compounding his toning bath. He is possibly going about it in the wrong way. The sulphocyanide should be mixed with one-half the bulk of the water, and the gold solution with the remainder. The latter is then added slowly, stirring constantly to the sulphocyanide solution. Made up in this manner, little or no precipitate should be formed.

Turning an Honest Penny

There is a little shoemaker's shop around the corner from where I live. It is presided over by a young craftsman of Swedish parentage. He has always taken a great interest

in my photographic work. He has had a photograph of the shop front made by every street photographer that came along. A copy was always sent to the old folks back home. The only trouble was that the interior could not be taken, according to these men who so willingly photographed the narrow door and window that composed the front. The interior of the shop is crowded if three customers visit him at the same time. In his trouble he appealed to me. I promised to make him a photograph. One morning I selected a wide-angle lens and set up the camera directly in the door. Standing back of it I caught the rays of the sun on a mirror about two feet square and went all over the walls within as if with a brush of light, giving particular attention to the dark corners. My shoemaker friend had been warned that the exposure would be long and that he must remain quite still. He was willing to do anything if I would but make the picture. He did blink when I carelessly flashed the light from the mirror in his face, but the picture was a success. The interior of the little shop came out as of palatial proportions. Away back in this large, commodious emporium could be seen the complacent proprietor. He was delighted with the pictures and thanked me for making the shop look so large when all the other photographers had made the front look so small. My fame spread amongst the small shopmen in this part of town. I had to refuse several commissions that would have been quite tempting to one "in the business." When a man whom I had met at the stockhouse a few times came to me the other day and asked if I could suggest any way of turning a little money with his camera until the season opened in the country I was all ready for him. I gave him the above experience. He went to work on the same lines. The other day I met him and was told that it was the best line he ever tried. He does not try for anything but the small shops and stores. Their proprietors are more proud of their establishments than the larger merchants. They are better customers in every way. I think the same line would pay in almost any town in the country. This friend of mine says he would want no better field

than to follow right after the ordinary street photographer. The simple fact that the work has been declared impossible makes it easy to get permission to make a trial and orders are assured.

Dull Looking Platinum Prints

All platinum prints, as, in fact, prints on other papers, look brighter and more on the surface while wet than after drying. If your platinum prints are excessively displeasing from this dead, sunk-in appearance, the chances are that the paper has not been kept perfectly dry. The calcium chloride in the end of the tube should be removed before it becomes moist, dried on an iron shovel held over the fire and then replaced, if the paper is to be kept after the tube is first opened.

Blackening the Image in Mercuric Intensification

I watched the old professional intensify a negative the other day. He first bleached it in a saturated solution of bichloride of mercury just as I or any one else would have done. He then gave it a good wash under the tap while something else was done. On returning to the sink he poured some strong ammonia into a tray and reached for the negative. I wondered if he was going to place it in the undiluted ammonia, but had learned not to question his practice. He quickly blotted off the adhering water and then held the negative face down within about an inch or two of the tray. The fumes blackened the negative almost as quickly as would the ordinary method of immersion in a weaker solution. In reply to my query as to why he preferred the fuming method, he explained that he found that the grain of the negative did not become coarse as it so often did when the other method was employed. There is, no doubt, something in his contention and I shall certainly give his plan a trial.

Bath Tub Enamel

I had occasion to use some of Neal's bath tub enamel a few weeks ago, and a little remaining in the can, I remembered a hint I had read somewhere and proceeded to put it into practice. I painted the foot and upper part of one of my eight-ounce graduates with it just as an experiment. I find myself giving this particular graduate the preference when I have any developing to do. There is

a deal less danger of upsetting it, as it is quite plainly discernable in the dim ruby light, even if standing well to one side. You all know how deceptive is the location of both the foot and rim even when held in the hand, but with this band of white around both, one sees just where they are at all times. I am thinking of giving several of my bottles a coat of the same stuff. By scraping off a strip up one side I could see just how much the bottle contained. By scraping away other short strips at various distances, horizontally, I could easily graduate in ounces, or half-ounces if desired, each bottle so painted. It is a good idea as applied to the graduate, that is certain. The other plan I will have to give a trial before I can speak so authoritatively.

About Backgrounds

The amateur is at first content to use wall-paper designs and brick wall or clapboard effects as backgrounds for his sitters. A little later he wants something better and he buys a "graded" ground. He buys the kind sold to amateurs. It has a light spot near the center and is graded off in cloud-like masses to a dark edge all around. These grounds are recommended to give him "regular gallery effects." I am sorry for the galleries that turn out the same "effects" as do some of these amateur friends of mine. These graded grounds are all right if they are rightly used, but they are not so employed once in ten times. The light spot is allowed to come opposite some uninteresting detail or bad line in the composition, accentuating it, particularly if it be dark in tone, much to the disadvantage of the more important portion, the face. Failing this, the darkest portion is allowed to do the same damage by contrasting with some lighter portion of the portrait that should be kept subordinate or suppressed. Some follow the rule of always placing this light spot behind the shadow side of the face. This is only a little less dangerous than the apparently hit-or-miss plan employed. The safest way is to use some such material as the felt that is sold for piano covers and the like. It comes five or six feet wide and costs about a dollar a yard. There are several gray or neutral shades that come out in the finished print as soft and atmospheric as one could wish. Any material with a smooth surface is inclined to show wrinkles and one of a pronounced or coarse texture is inclined

to assert itself unless care is taken to see that it is well out of focus. One of the best makeshift backgrounds it was ever my pleasure to use was an old piece of linoleum that had outlived its usefulness as a floor covering. The back of such material is a reddish brown that photographs a good shade of gray. With the flat side of a few chalk crayons one can make their own graded grounds on such material. A new ground can be rubbed in for each sitter. When a makeshift ground is being used that is liable to show undesirable creases or spots it is a good plan to keep it in motion during the exposure. I have seen old newspapers pinned together employed by following this plan. They were fastened to a line strung back of the sitter and an assistant gently "jogged" it up and down during the exposure.

Studying the Work of Artists

A few years ago the art instruction offered the photographers through the medium of the journals devoted to his craft was less practical than it is today. When one did find them neglecting the difficulties connected with leaky skylights and albumen paper long enough to insert an article copied from one of the foreign magazines and purporting to point the road, they found the same old advice: Study the work of the painters; visit the galleries; get inspiration from the masters. I suppose the editors copying this stuff overlooked the fact that not all of their readers lived within a short distance of the Royal Academy or some such exhibition. At any rate, I read it so often that I began to believe it was the only way and so did the next best thing: I paid a visit to the annual exhibition of paintings in a nearby city. I was disappointed. The wealth of color, a power denied us poor photographers, so dominated all other factors that I could not see much that I could apply to my own work. The catalog that I held in my hand came to my assistance. It contained a few reproductions in monochrome. In these I could see the lighting, the composition, the cloud schemes, the arrangement of mass and all that goes to the making of a picture from a photographer's point of view. Since this ex-

perience I have never envied the fortunate individuals who could spend their afternoons "gathering inspiration from the masters." A local bookseller supplies me each year with a "shilling" pamphlet entitled "Royal Academy and New Gallery Pictures," and I study the reproductions. Other publications of a like character occasionally fall into my hands. The public libraries in all the larger towns and cities have volumes of reproductions of the works of the master painters. Even the magazines of today contain many reproductions that are of more value to the worker in monochrome than would be the originals themselves. A word of warning and I am done. Do not study these prints with the idea of copying their material. Ask yourself what stop would give such a result, what exposure would give such a range of tone values, what lighting has been chosen and why, could any part be spared as is so often the case with your own work, does the composition suggest any definite plan. You will find in such reproductions answers to a great many questions. Be sure that you ask them and you will be rewarded with replies that will help you to improve your own work. This is the most practical way I know of "gathering inspiration from the masters."

Green Tones on Bromide Paper

One of my correspondents, I think he is in Iowa, asked me recently if I could give him a formula for green tones on bromide paper. I have seen several published formulae tried with indifferent success and so wrote my correspondent; but coming upon a new formula in a foreign publication the other day, I will give it here for what it may be worth. I hope that if any of my readers give it a trial they will be kind enough to advise me of their success. The formula is as follows: Immerse the print in a fifteen grain to the ounce solution of potassium ferricyanide for one minute. Rinse for a couple of seconds and immerse in a ten-grain solution of iron sulphate until a deep blue. Wash well and then place in a bath of a five-grain solution of sodium chromate. This formula promises well, and I should be pleased to hear of its being tried.

Notes and Comment

Another Competition

We have decided to offer a first prize of a Wynne Infallible Exposure Meter in solid silver and a second prize of a Wynne Infallible Print Meter in nickel silver for the best prints from negatives secured by the use of our Infallible Exposure Meter between April 15th and October 1, 1903, in each of the following classes: *Landscapes*, including all outdoor work other than marines; *marines*; *interiors*, including all in-door work other than portraits; *portraits*.

Pinholes may be spotted out, but otherwise the negatives must be printed from as they were when taken from the drying rack. Technical excellence only, will be considered in making the awards, save in the case of a tie, when the awards will be made in the order of artistic merit. On the back of each print should appear: The actinometer time; plate used; stop employed; light conditions; time of day; exposure given, and the name and address of the competitor. If a color screen was used the face should be stated. Any number of prints, preferably unmounted, may be submitted in each class.

When requested, prints will be returned if accompanied by sufficient postage.

THE INFALLIBLE EXPOSURE METER Co.,
Brooklyn, N. Y.

Sale of the Seavy Property

The negative, photographic designs and other background and accessory assets of the late Lafayette W. Seavy, background artist, were sold at public auction March 9th last at the late Mr. Seavy's studio in Walton avenue and Cheever place, New York. The bidding was spirited, and the whole lot bought in jointly by Messrs. Rough & Caldwell, New York, and Packard Brothers, Boston, Mass. These two well-known firms dividing the same equally, thus owning the entire accumulation of "Seavy" designs, photographs and negatives, the result of thirty-five years' work.

Trees

Over a hundred good-natured photographers complied with our request in the March number for pictures of trees and, although the average of the pictures received so far is very

high, we still need more. Pictures of single trees, and landscapes where trees enter largely into the composition, are particularly desired.

Officers Nominated

The nominating committee of the California Camera Club has submitted its report, the following ticket being suggested:

President, A. L. Coombs; First Vice-President, H. B. Hösmer; Second Vice-President, J. R. Gwynn; Secretary, W. E. Palmer; Treasurer, J. J. Lerman; Librarian, F. Purnell; Corresponding Secretary, Chares A. Goe; Directors, F. C. Bangs, H. L. Byrne, E. G. Eisen, J. W. Erwin.

The election will take place on April 14th at the clubrooms.

Sunset Magazine

From the frolicsome spirit of youth to the full dignity of maturity is a leap ordinarily supposed to be covered by a half score years, even in the make-up of modern publications, but, characteristic of Western ambition, *Sunset Magazine* has passed out of the ranks of the ordinary and can now be numbered among the "big ones" of the country. From eighty pages in 1902 to 190 in 1903 is a leap almost phenomenal, yet the upbuilding has been so steady, so sure, that few have realized the full growth of the magazine.

CAMERA CRAFT has always had a deep and abiding faith in the growth of *Sunset Magazine*, possibly for the reason that Photography enters so largely into its composition. For this reason we are especially anxious that every reader of CAMERA CRAFT become acquainted with *Sunset*. Ten cents in stamps addressed to the Subscription Department, *Sunset Magazine*, San Francisco, will bring a copy of the May number by return mail.

Ninety-Five for One

Messrs. Hirsch & Kaiser, 7 Kearny street, San Francisco, will shortly issue a handsomely illustrated catalog of some ninety-five pages, and are more than willing that every Western photographer should have a copy. No charge is made for the publication, and a postal request is all that is necessary.

May 15 out

